LuxRiot

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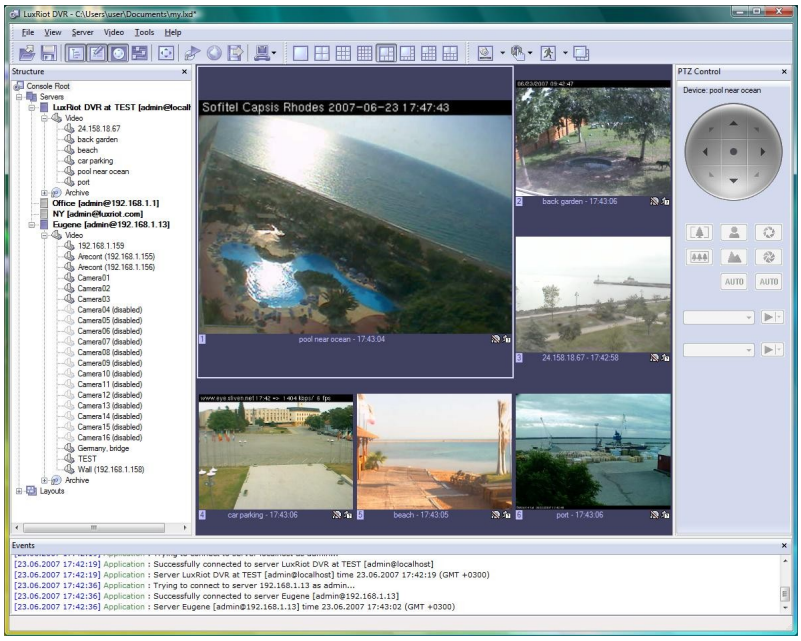
Overview



LuxRiot is a digital video recording and remote surveillance software package for Windows. LuxRiot accepts video streams from all major Network (IP) cameras and servers, Frame Grabbers and any Direct Show compatible devices including Webcams and USB cameras. This along with the LuxRiot client-server architecture allows you to build fully scalable solution sizing from a single camera up to thousands of cameras.

LuxRiot was designed to primarily be used to:
1.View live video streams from multiple sources locally and remotely, over the Internet.
2.Record video from multiple sources and play them back later locally or remotely
3.Export previously recorded video to preserve it and to present it as evidence.

LuxRiot offers a principally new concept for DVR solutions – “One Software/Choice of Hardware”. LuxRiot DVR software can be either integrated with supported hardware or acquired from a LuxRiot reseller as a part of a complete digital video recording and remote surveillance solution.

LuxRiot consists of two major components: DVRServer and DVRClient. The DVR Server is a behind-the-scene application that captures, processes and records video and then serves it to a local or remote DVR Client software. The DVR Client is the application that shows live and recorded video streams from a single DVR Server or multiple DVR Servers; it also allows users to configure and control DVR Server(s).
In order to better suit our customers' needs and budget, LuxRiot has 5 editions. These editions range from Personal to Enterprise and each edition varies in the number of allowed cameras, the number of simultaneous remote DVR Client connections as well as other limitations, or lack thereof. However, all of the LuxRiot editions have the same user-friendly interface and functionality.
LuxRiot DVR Personal Edition is a shareware product, which means you can try it first, and then buy it if you like it.

	Personal	Basic	Professional	Advanced	Enterprise
Maximum Number of Cameras	1	4	9	16	Unlimited
Maximum number of concurrent remote DVR Client connections	1	1	3	5	Unlimited

Chapter 1

Frame Grabbers

What is Frame Grabber? Frame Grabber is a PCI board that is installed into the PC and ***CCTV cameras*** (Cameras with BNC or RCA connectors) are attached thereto. These boards come in various configurations 4 camera inputs, 8 inputs, 16 inputs, etc. and boards are made by various manufacturers. Also, depending on the Frame Grabber certain criteria is expected from the PC. Some frame grabbers require a minimum amount of PC power as where others require more. Frame Grabbers have the following terminology:

Inputs = The amount of cameras the board can handle (4, 8, 16, 24, 32)
Frame Rate = Frame Grabbers supported by LuxRiot (HP4000EX) come in 480Frames per second. These frames however, are the entire frame rate numbers divided by the amount of inputs; therefore if you have a 480FPS (Frame Per Second) board with 16 inputs, that means 16 divided by 480FPS = 30FPS per camera.
LuxRiot support the HP4000EX board which is a real time 16 channels board with 480FPS, H.264 compression and 16 channels Audio (max 2 boards per server for 960FPS, 32 channels of Video and Audio)
More on image quality on **page 31**

You can purchase these boards from any LuxRiot authorized reseller, or if you currently purchase or own any of the above cards, you only need to purchase the appropriate LuxRiot Edition.

LuxRiot works with any and all CCTV cameras. CCTV cameras are analog cameras, even though some of them might have written the word Digital written on them, which only means that a DSP chip is used, but the Frame Grabber is what makes the signal truly digital. Therefore, if you decided to retrofit existing installation or make a new one based on analog CCTV cameras, make sure that you choose a LuxRiot supported frame grabber card or acquire a complete system from a LuxRiot reseller. You can check the perpetually growing list of supported Frame Grabber cards on the LuxRiot website.

Network (IP) Cameras

What is Network (IP) Camera? Network camera, IP addressable camera, IP Camera, all referring to the same type of cameras, is a digital camera that can be directly connected to the Internet through a CAT5 or WiFi connection. Network cameras send already digitized and compressed video streams. Network Cameras are the fastest growing trend in the Surveillance industry. Here are some of the benefits of IP cameras:
Existing local network infrastructure could be used for the installation.
Comparably less cabling required compared with an analog CCTV installation.
Network cameras have built-in motion detectors and compression engines, which enable the DVR Server to use a minimum of its computer resources; therefore, the same computer can also be used for other tasks.
There are no requirements on CPU or chipset manufacturers, since Network Cameras do not require any additional hardware to be installed in to the computer.
There are Network (IP) cameras with very high resolution (1.3 Mega pixels and more). Analog cameras are incapable of achieving such resolution.
Network (IP) camera installations are highly scalable and upgradeable. There is no need to buy and install additional video capture boards for the DVR system in the event you want to add a camera or increase performance of the system.
Any analog camera can be converted to a network camera by using a Network (IP) server.
There is no geographical limitation for the installation.
Effective off site recording (either by itself or in addition to onside recording) eliminates the possibility of destruction of the video medium due to deliberate actions or an accident (fire, flooding, etc.).
Some of the network cameras also can be used as a webcam to serve as an advertising engine for a business.

Review for MPEG4/H.264 cameras:
Without compromising image quality, an H.264 encoder can reduce the size of a digital video file by more than 75% compared with the Motion JPEG format . This means that much less network bandwidth and storage space are required for a video frame. A higher video quality can be achieved with less bit rate.

- Better Average Bandwidth and Storage Reduction over MJPEG
- high-quality 3 megapixel video stream at 20fps can be as low as 2 Mbps
- high resolution and bandwidth efficiency

LuxRiot supports Network Cameras from all major manufacturers. Please visit the LUXRIOT website for the perpetually growing list of supported Network cameras.

PTZ Cameras

What are PTZ Cameras? PTZ camera is the camera with the mechanical assembly for Panning, Tilting and Zooming the camera. There are many types of PTZ cameras available and their cost varies based on Speed, Zoom capacity, Manufacturer, etc. Analog CCTV PTZ cameras require additional set of wires compliant with RS422/485 protocol standard to control PTZ movements. Therefore, usually it is necessary to put a RS232 to RS422/485 converter to a DVR system. LuxRiot currently supports the most popular Analog CCTV PTZ command protocols, including Pelco-D, Bosch and MeritLilin. Network PTZ cameras does not require any addition wiring or devices, since PTZ commands are being send over TCP/IP network; therefore, making installation process much simpler and eliminating a lot of compatibility and configuration issues.

USB and Web Cameras

Can I use my USB or Web Cameras? Yes, LuxRiot is the world's leader in the best most economic, versatile and powerful DVR. We want everyone to be able to use our software and if you have a USB cam or a Web Cam, feel free to try our software for free and purchase as many licenses as you wish. Of course don't forget that you are limited to USB ports with this option but for small users, LuxRiot is for you.

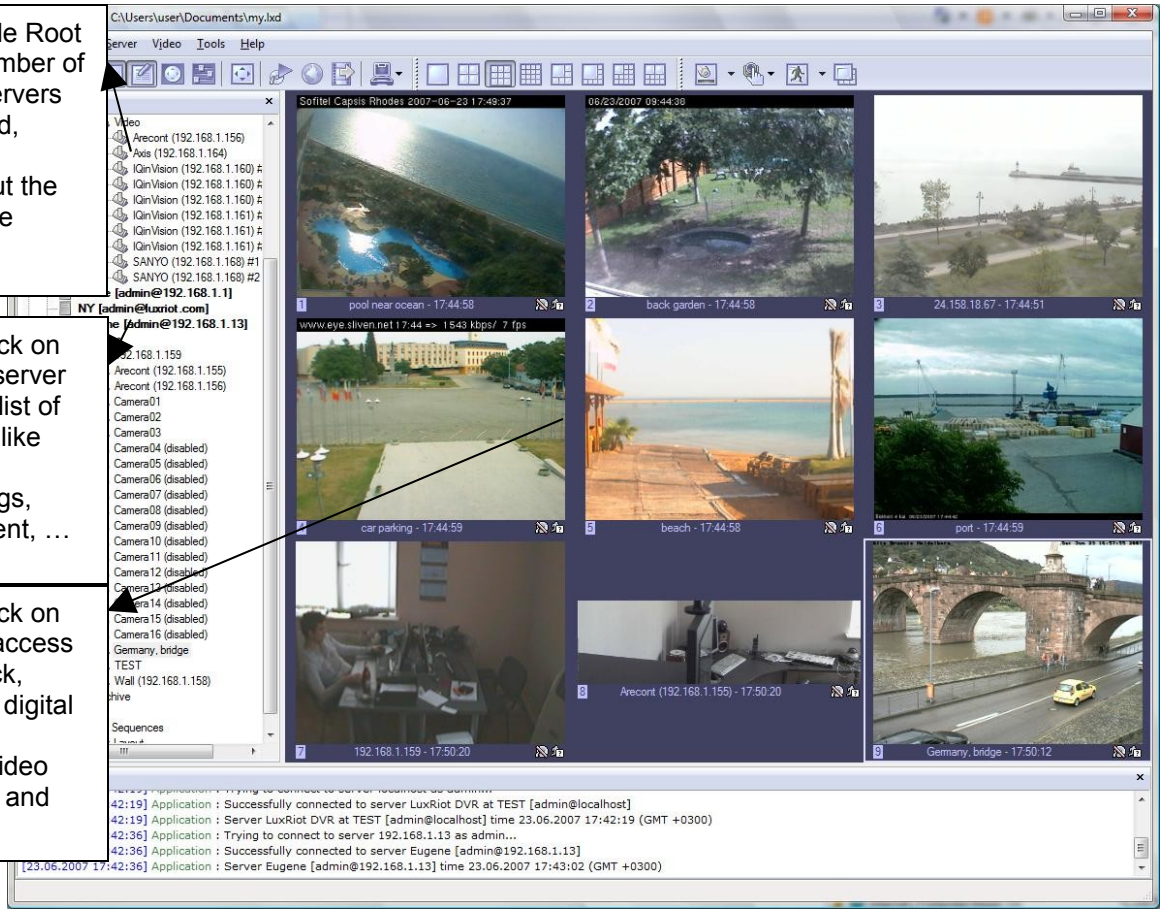
Server

What is LuxRiot Server? LuxRiot server is the Windows application, which can run as Windows service or Windows tray-application. LuxRiot Server grabs video streams from the configured sources, analyzes it for motion, broadcasts it to local (running on the same computer) and remote clients and records it to a local hard drives. LuxRiot server is the only application in the LuxRiot suite, which requires licensing, which can be activated via software key.

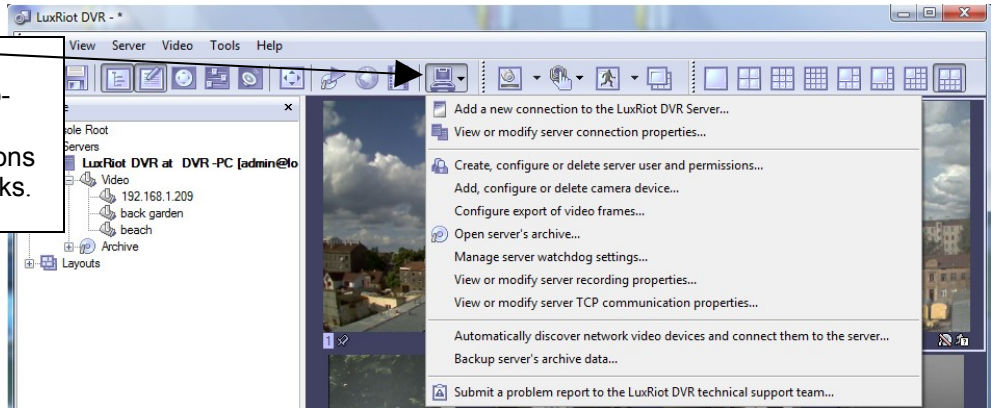
Through Console Root an unlimited number of cameras and servers can be managed, configured, and adjusted, without the need to be at the server site.

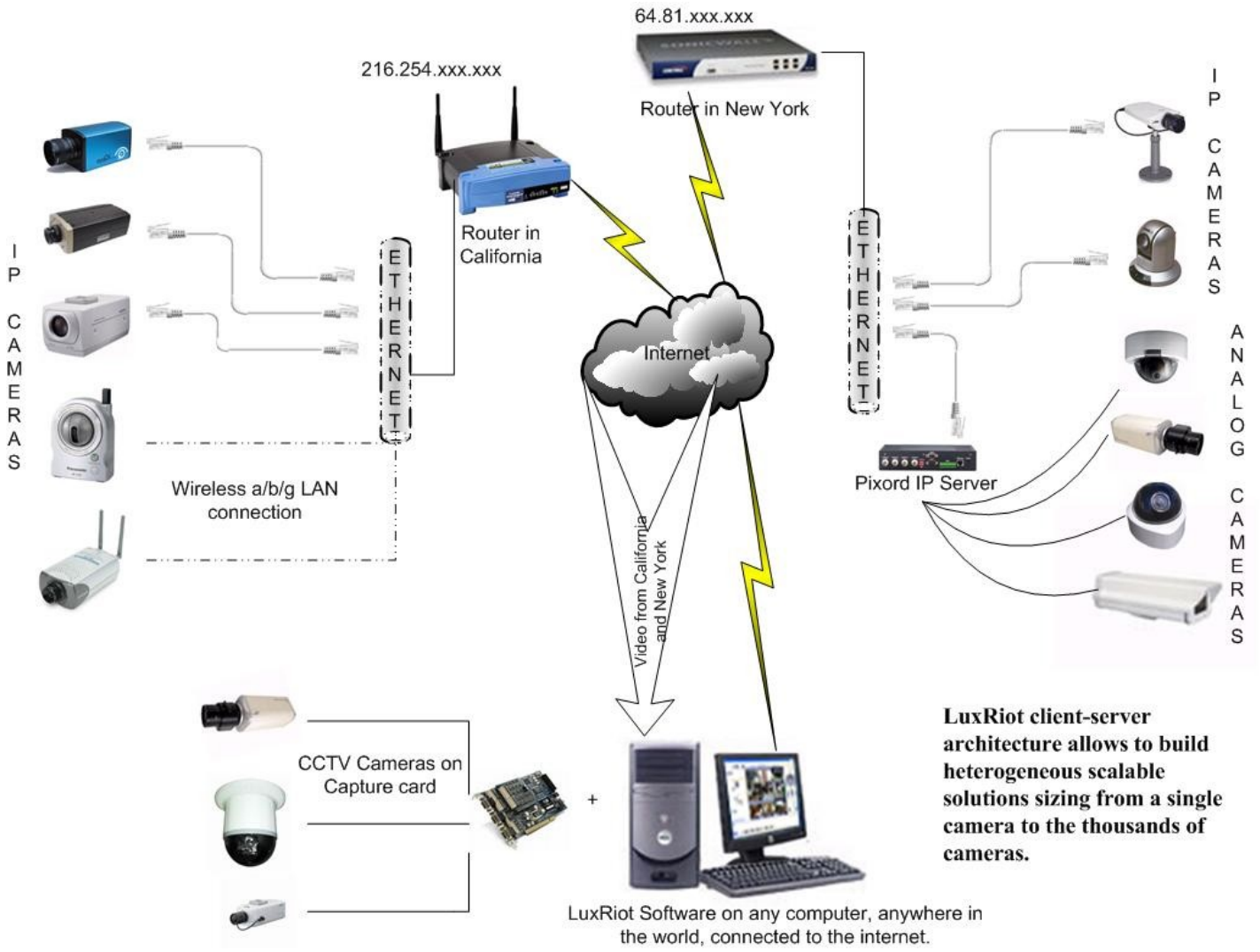
Right mouse click on any camera or server to drop down a list of various options like camera setup, recording settings, user management, … etc

Right mouse click on any camera to access Archive playback, freeze function, digital PTZ, screen arrangement, Video transfer options and more.


C:\Users\user\Documents\my.lxd
Server Video Tools Help
Sofitel Capsis Rhodes 2007-06-23 17:49:37
pool near ocean - 17:44:58
back garden - 17:44:58
24.158.18.67 - 17:44:51
car parking - 17:44:59
beach - 17:44:58
port - 17:44:59
Arecont (192.168.1.155) - 17:50.20
192.168.1.159 - 17:50.20
Germany, bridge - 17:50.12
[23.06.2007 17:42:36] Application : Successfully connected to server LuxRiot DVR at TEST [admin@localhost]
[23.06.2007 17:42:36] Application : Server LuxRiot DVR at TEST [admin@localhost] time 23.06.2007 17:42:19 (GMT +0300)
[23.06.2007 17:42:36] Application : Trying to connect to server 192.168.1.13 as admin...
[23.06.2007 17:42:36] Application : Successfully connected to server Eugene [admin@192.168.1.13]
[23.06.2007 17:42:36] Application : Server Eugene [admin@192.168.1.13] time 23.06.2007 17:43:02 (GMT +0300)

Wizards for easy navigation and step-by-step setup to perform configurations and other setup tasks.

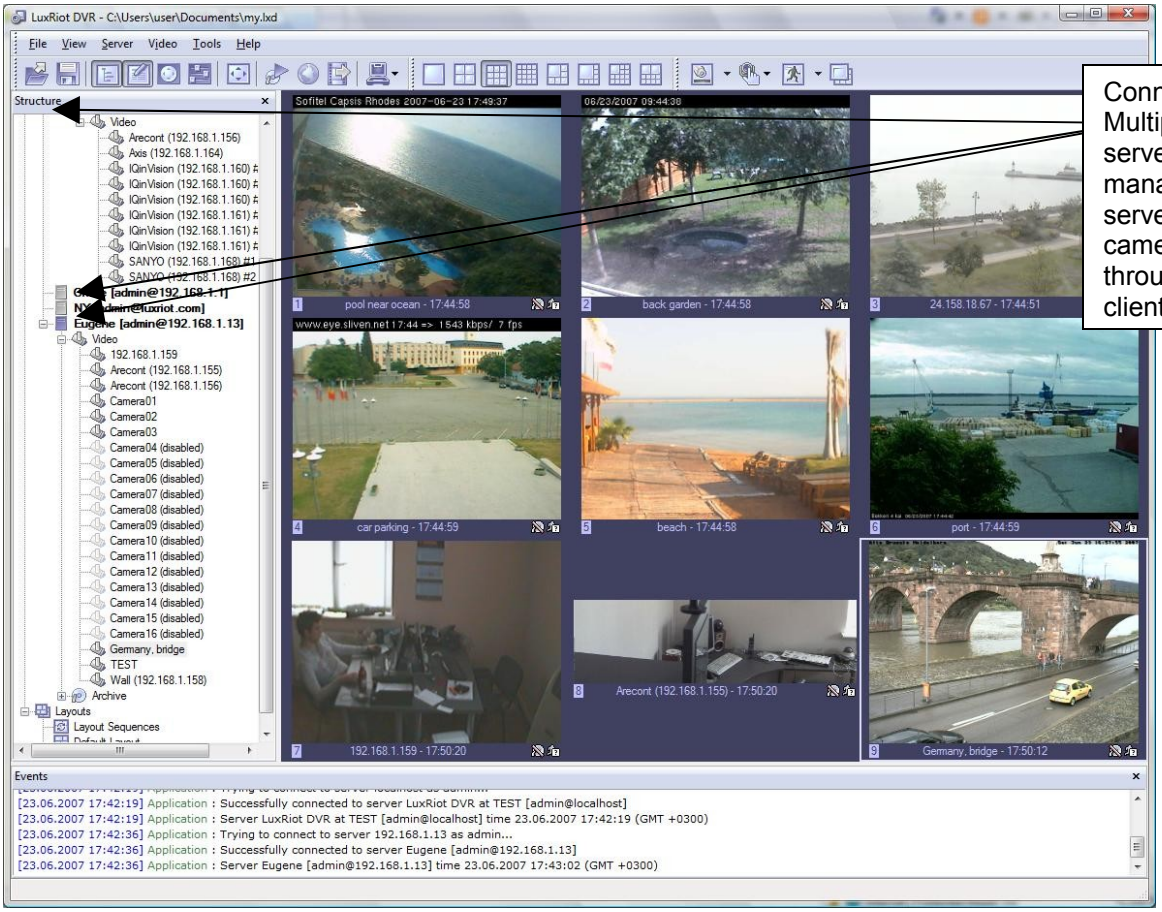

LuxRiot DVR - *
File View Server Video Tools Help
LuxRiot DVR at DVR-PC [admin@lo
Video
192.168.1.209
back garden
beach
Archive
Layouts
Add a new connection to the LuxRiot DVR Server...
View or modify server connection properties...
Create, configure or delete server user and permissions...
Add, configure or delete camera device...
Configure export of video frames...
Open server's archive...
Manage server watchdog settings...
View or modify server recording properties...
View or modify server TCP communication properties...
Automatically discover network video devices and connect them to the server...
Backup server's archive data...
Submit a problem report to the LuxRiot DVR technical support team...


64.81.xxx.xxx
Router in New York
216.254.xxx.xxx
Router in California
IP CAMERAS
ETHERNET
Wireless a/b/g LAN connection
Internet
ETHERNET
Pixord IP Server
IP CAMERAS
ANALOG CAMERAS
Video from California and New York
CCTV Cameras on Capture card
+
LuxRiot client-server architecture allows to build heterogeneous scalable solutions sizing from a single camera to the thousands of cameras.
LuxRiot Software on any computer, anywhere in the world, connected to the internet.

Client

What is LuxRiot Client? LuxRiot Client Application is the component to monitor live and recorded video from several LuxRiot servers. Also LuxRiot Client is the main tool to manage and configure local and remote LuxRiot servers.

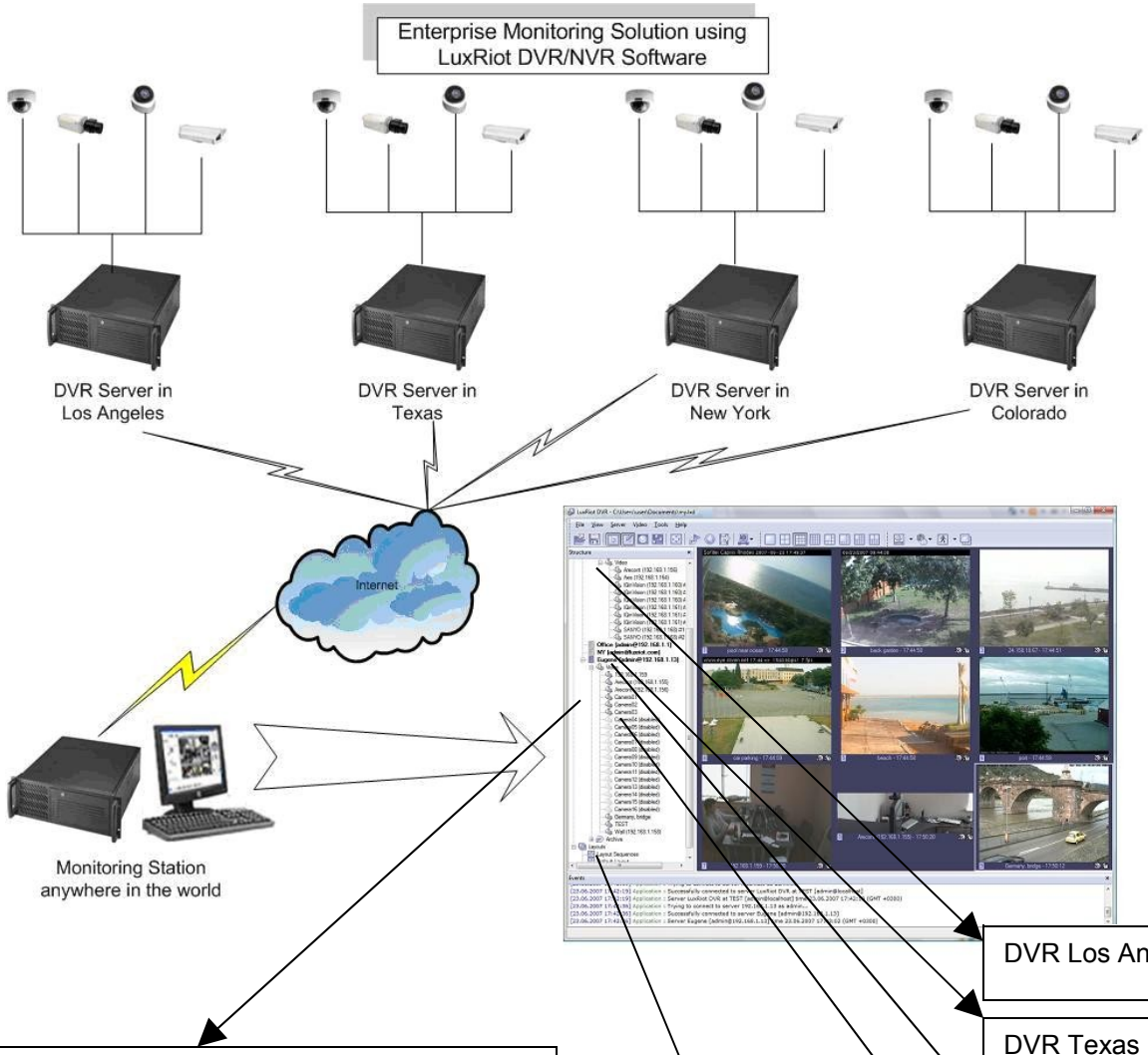
The Client component is the control interface of your LuxRiot Software is the Interface to control your LuxRiot surveillance system. The client is the piece of software that controls every aspect of your server. This software can be installed on the main machine running the server or on any machine that can access the server via TCP/IP. The client application can be used to control and fully administer your server or an unlimited number of servers from any computer connected on the Internet. You never need to go on-site again to make changes to your DVR.



Connect to Multiple servers, manage servers and cameras through the client software

Benefits – By not having to ever be on-site to administer your DVR is a tremendous advantage and one that LUXRIOT offers. We have revolutionized the DVR world with this application feature enabling full flexibility to the DVR operator. Another advantage to not installing the Client on the Server Site is your DVR is now **Tamper Proof**. Since LuxRiot server can run as a Windows service, The server/Computer running the software can be logged out of Windows and have login password protected.

ENTEPRISE SCALABILITY AND MONITORING.



DVR Los Angeles

DVR Texas

DVR New York

DVR Colorado

Enterprise Scalability:
Control and fully administer your server or an unlimited number of servers from any computer connected on the Internet with Luxriot client. Engineer not to use any network resources for the open server connections and only use network resources for the cameras you monitor at the given time . Can be connected to unlimited server and control unlimited cameras within those servers.

Layouts: Create custom layouts by grouping cameras from different DVR Servers/Location into groups for more efficient monitoring, and better management.

Chapter 2

Server Installation

Lets Begin Installing- begin the installation process by double clicking the LuxRiot setup file.

1st Screen- "**Welcome to the LuxRiot Digital Video Recorder Setup Wizard**"

Click next

2nd Screen- "**Software License Agreement"**

Please read and choose accept.

Click next

3rd Screen- **"Select installation Destination**"

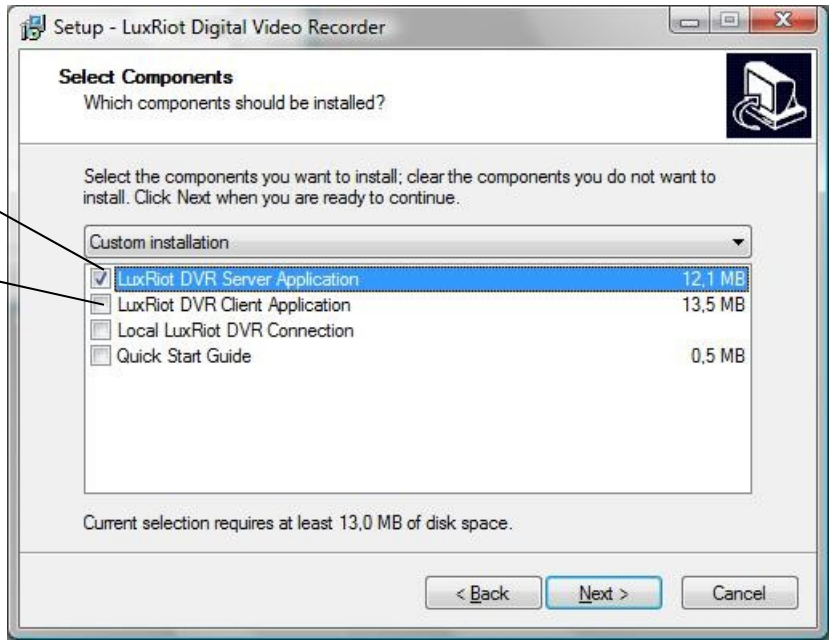
changing the location is optional but not recommended.

Click next

4th Screen- "**Select Components**"

Here you will need to check the top Unchecked option "LUXRIOT SERVER APPLICATION" This option needs to be checked now, since we are now Installing The Server portion of the LuxRiot package. If you would also like to install the GUI (Graphic User Interface) or the CLIENT put a checkmark next to Luxriot client application. Then leave the rest of the boxes unchecked. If you would like to have the server run without the client, please uncheck the remaining Boxes.

If you want to be able to view and manage the server from the same machine check both Luxriot Client & Server Application.


Setup - LuxRiot Digital Video Recorder
Select Components
Which components should be installed?
Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.
Custom installation
LuxRiot DVR Server Application 12,1 MB
LuxRiot DVR Client Application 13,5 MB
Local LuxRiot DVR Connection
Quick Start Guide 0,5 MB
Current selection requires at least 13,0 MB of disk space.
< Back
Next >
Cancel

Click next

5th Screen- "**Select Start Menu Folder**"

Changing the location is optional but not recommended.

Click next

6th Screen- "**Additional Icons**"

These are shortcuts and are recommended but optional.

Click next

7th Screen- "**Ready to Install**"

LuxRiot Server and options will now be installed.

Click Install

8th Screen- "**Completing the LuxRiot Recorded Setup Wizard**"

Here there is an option for "run server setup wizard" Leave it checked and lets continue.

Click Finish

Software Activation

1st Screen- "**Wizard explanation**"

Click Next

2nd Screen- **"Product Activation Method"**

IF YOU HAVE DOWNLOADED LUXRIOT THE SHAREWARE VERSION, click cancel and skip down to page eight of your manual "Install Server Configuration. For those who have purchased LuxRiot or wish to purchase LuxRiot at this time.

LuxRiot DVR Activation Wizard
Product Activation Method
Please select an activation method
Activating LuxRiot DVR will enable you to use it as a professional digital video surveillance and recording system. Please choose activation method and press Next to continue.
Internet Activation
Yes, I would like to activate via Internet now. The wizard will connect you to LuxRiot DVR server and perform activation automatically.
Phone Activation
Yes, I would like a telephone representative to assist me with activation. Customer service representative will provde activation instructions.
No Activation (continue using Shareware version)
No, I would like to continue using the currently installed version of LuxRiot DVR. Maybe activate later.
< Back
Next >
Cancel

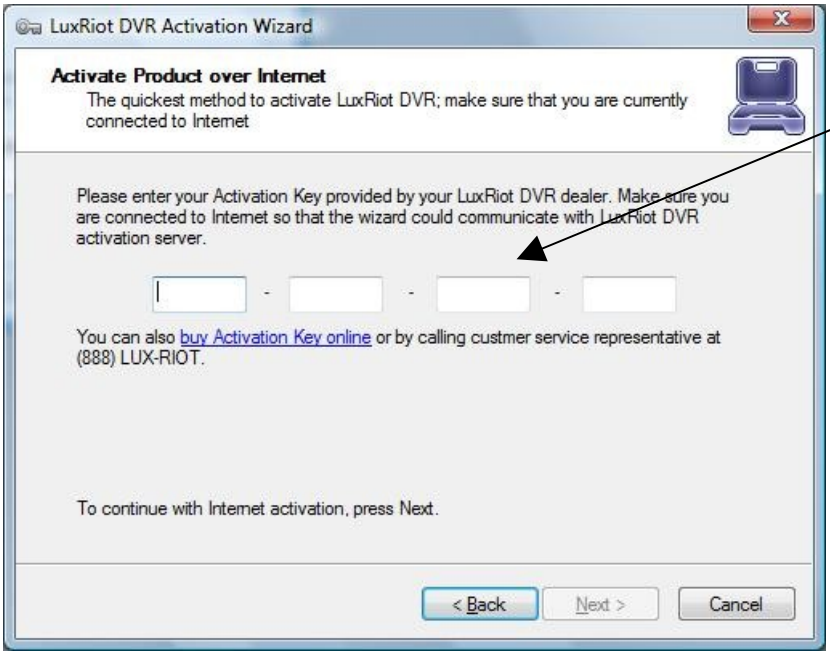
Select Internet Activation method if you have your machine connected to the Internet.

Select Phone Activation if your machine isn't connected to the Internet.

Click Next

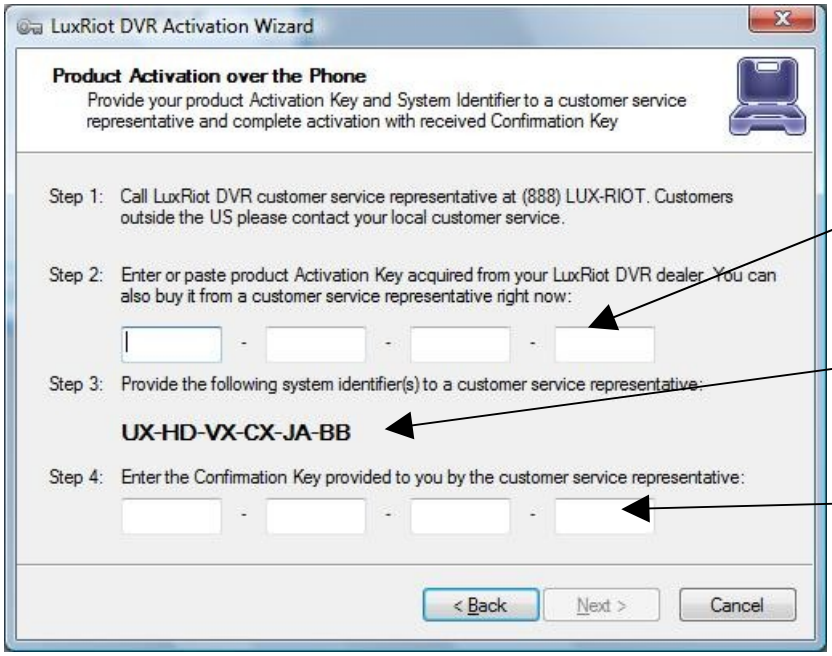
3rd Screen- "**Activate Product over Internet**" or **"Activate Product over the Phone"**

Activate Product over Internet


LuxRiot DVR Activation Wizard
Activate Product over Internet
The quickest method to activate LuxRiot DVR; make sure that you are currently connected to Internet
Please enter your Activation Key provided by your LuxRiot DVR dealer. Make sure you are connected to Internet so that the wizard could communicate with LuxRiot DVR activation server.
You can also buy Activation Key online or by calling custmer service representative at (888) LUX-RIOT.
To continue with Internet activation, press Next.
< Back
Next >
Cancel

Enter here Activation Key, acquired from your LuxRiot DVR dealer. You can also buy it from a customer service representative.

Activate Product over the Phone


LuxRiot DVR Activation Wizard
Product Activation over the Phone
Provide your product Activation Key and System Identifier to a customer service representative and complete activation with received Confirmation Key
Step 1: Call LuxRiot DVR customer service representative at (888) LUX-RIOT. Customers outside the US please contact your local customer service.
Step 2: Enter or paste product Activation Key acquired from your LuxRiot DVR dealer. You can also buy it from a customer service representative right now:
Step 3: Provide the following system identifier(s) to a customer service representative:
UX-HD-VX-CX-JA-BB
Step 4: Enter the Confirmation Key provided to you by the customer service representative:
< Back
Next >
Cancel

Enter here Activation Key, acquired from your LuxRiot DVR dealer. You can also buy it from a customer service representative.

This is your system ID which will be required when contacting customer service representative.

Enter here Confirmation Key, acquired from a customer service representative.

Click Next

5th Screen- "**Product has been successfully activated**"

You will also see the description of your edition and your access limitations.

Click Finish

End of software activation

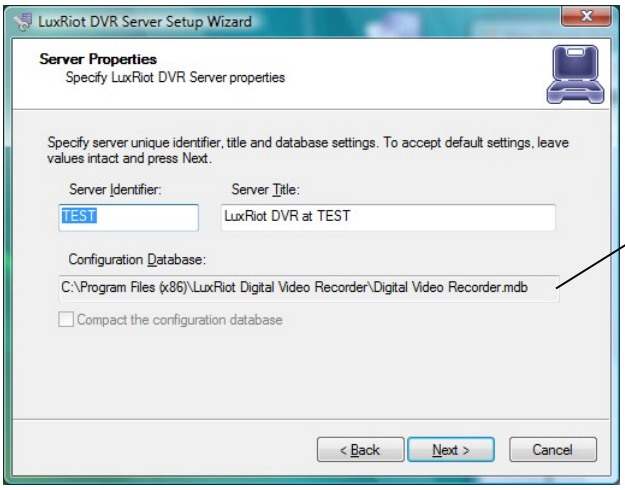
Install Server Configuration

1st Screen- "**Wizard explanation**"

Click Next

2nd Screen- "**Server Properties**"

Here is where you will enter your machines unique Identifying name and server title. Underneath you will see an option that is by default UNCHECKED "Compact the configuration database" it is a good choice to check this option for it will help optimize our configuration database in the future.


LuxRiot DVR Server Setup Wizard
Server Properties
Specify LuxRiot DVR Server properties
Specify server unique identifier, title and database settings. To accept default settings, leave values intact and press Next.
Server Identifier:
Server Title:
TEST
LuxRiot DVR at TEST
Configuration Database:
C:\Program Files (x86)\LuxRiot Digital Video Recorder\Digital Video Recorder.mdb
Compact the configuration database
< Back
Next >
Cancel

Default Install Directory of Database

Click Next

3rd Screen- "**Server Administrator Settings**"

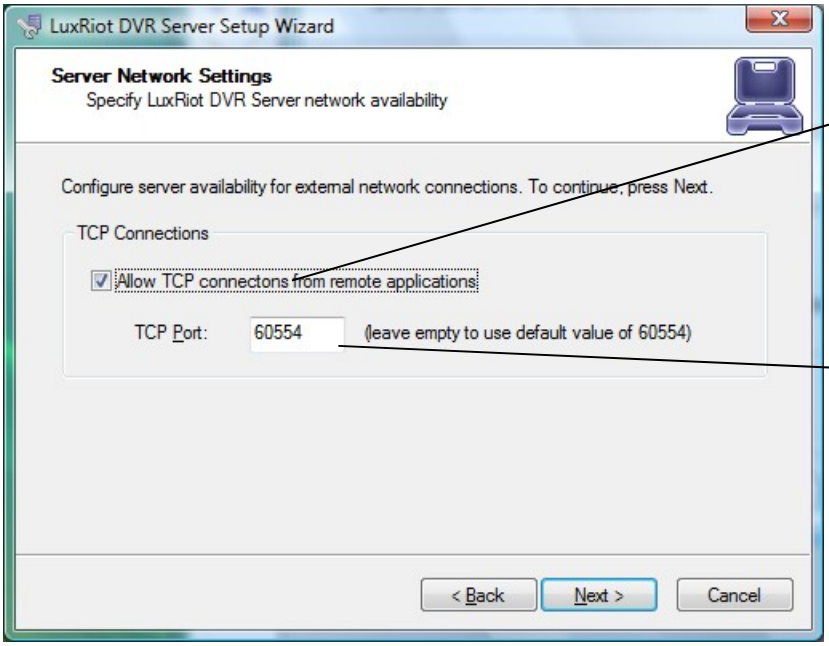
Here you are setting up the settings for the Administrator. Leave the default user name to admin" and enter a unique password in both lines. You will have the chance to add additional users at a later time.

Click Next

4th Screen- "**Server Network Settings and Port settings**"

The default firewall port that LuxRiot uses is 60554 but you can change that to any port that you would like as long as it is open on your firewall. Please check with your network administrator or internet service provider about your firewall settings.

Click Next


LuxRiot DVR Server Setup Wizard
Server Network Settings
Specify LuxRiot DVR Server network availability
Configure server availability for external network connections. To continue, press Next.
TCP Connections
Allow TCP connectons from remote applications
TCP Port:
60554
(leave empty to use default value of 60554)
< Back
Next >
Cancel

To enable TCP to accept remote connections can be disabled or enable at any time from the Luxriot server settings.

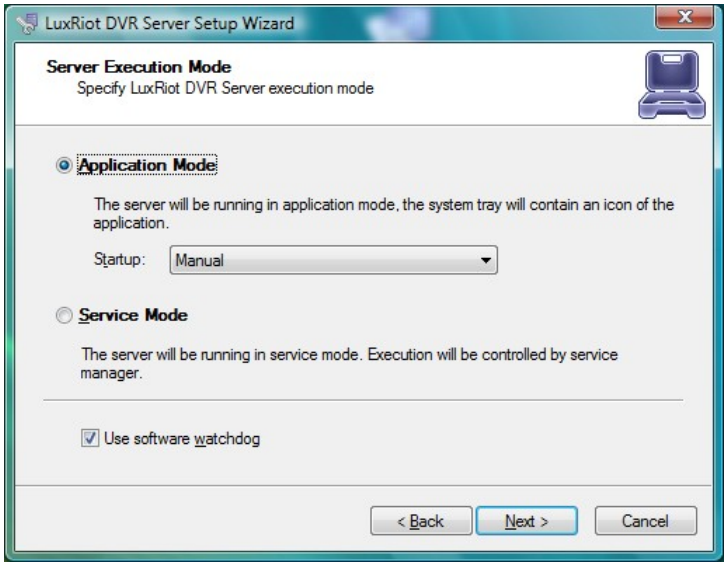
This is the default Port and it can be changed to your preferences.

5th Screen- **"Server Execution Mode"**

Here you have two options

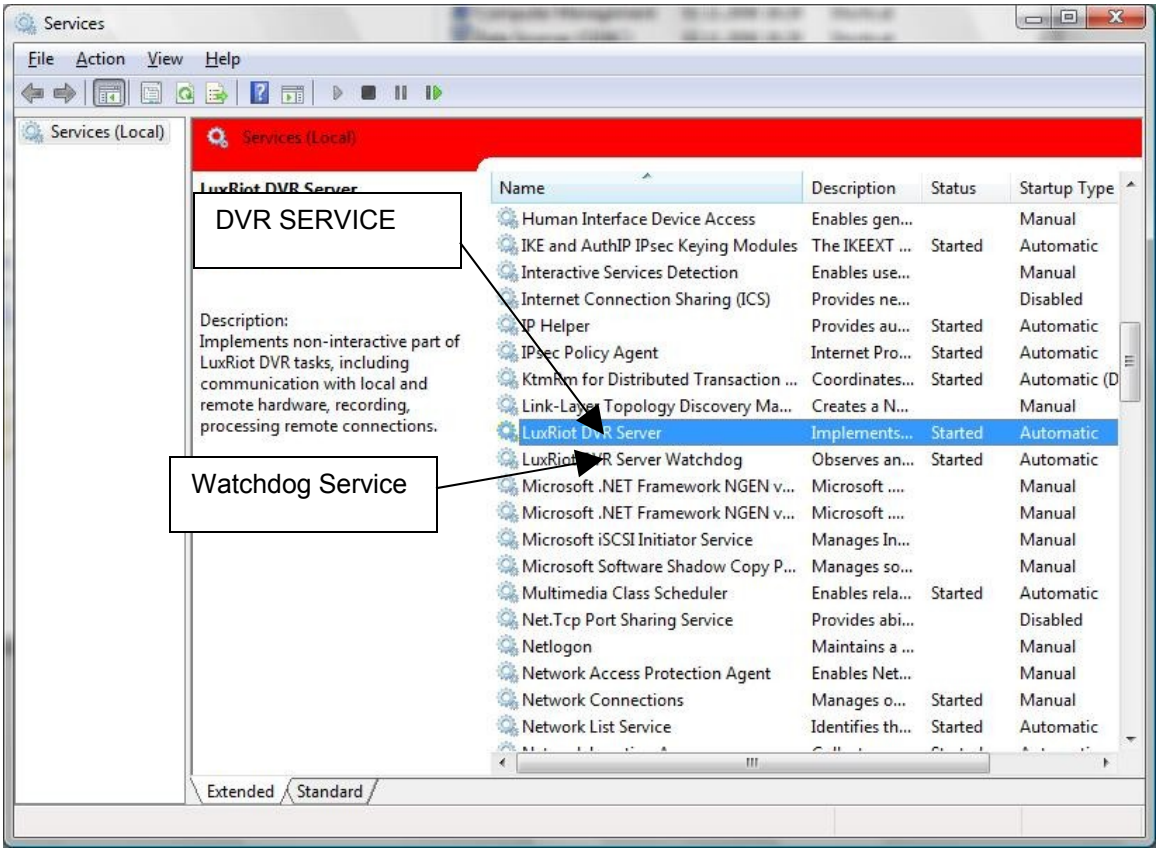
Application Mode.

This means that the program (LuxRiot) will need to somehow be manually started. It then gives you a drop down list with options on how that can happen. "**Manually"** is one option. That means you will physically have to double click the program to get it started. "**Automatically with any user logon"** is another option. This option will turn the software on when any user logs into Windows on that machine. **"Automatically with current user logon"** is the last option. This means that the user currently logged into Windows, will be the user that activates LuxRiot upon Windows login.


LuxRiot DVR Server Setup Wizard
Server Execution Mode
Specify LuxRiot DVR Server execution mode
Application Mode
The server will be running in application mode, the system tray will contain an icon of the application.
Startup:
Manual
Service Mode
The server will be running in service mode. Execution will be controlled by service manager.
Use software watchdog
< Back
Next >
Cancel

Service Mode.

This option is RECOMMENDED. This option is an amazing feature offered exclusively through LuxRiot. With Service Mode checked, the software will always be running in the background even though nobody has yet logged into Widows. This means you can lock everyone out of windows and never have to worry about any of your data. Also, if your power ever goes out, upon power recovery your system will turn on and nobody needs to physically log into windows or turn your LuxRiot program on, in order to keep your data flowing both locally and remotely.



Click Next

6th Screen- "**Server Execution Control**"

Here depending on which option you Chose in the previous screen, will show you your options. Again your options will be limited to your previous selection. Choose to either "Start Server Application" or "Start Server Service"

Click Next

7th Screen- "**Stop Server Application**" or "**Stop Server Service**"

Just showing you how you can now stop the Server if desired.

Click Next

8th Screen- "**Wizard Complete**"

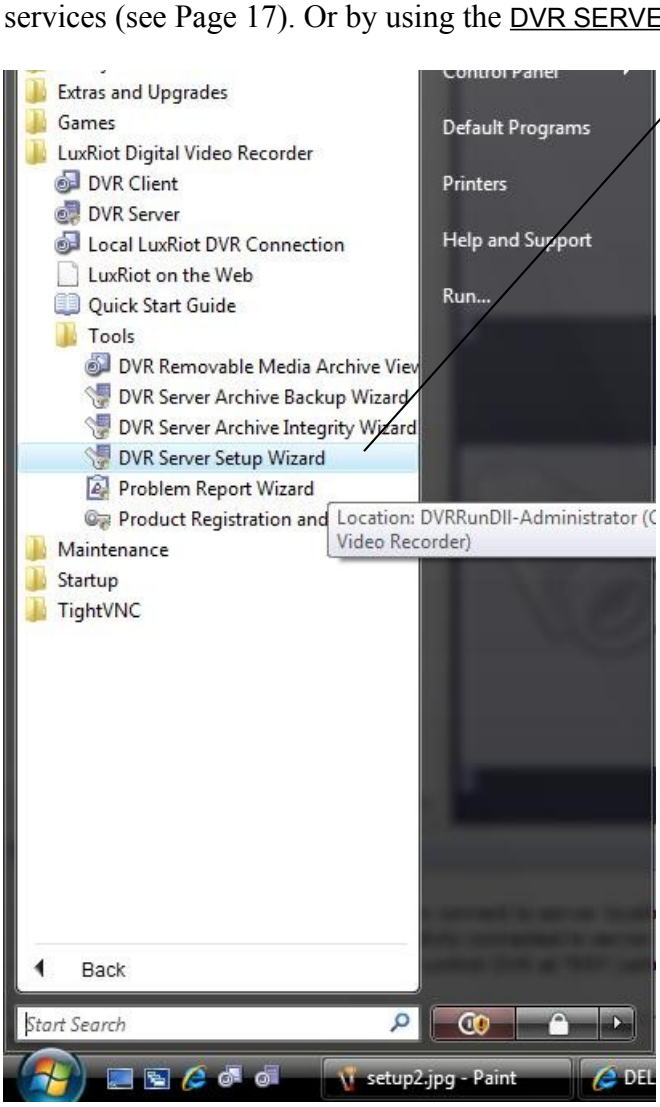
Click Finish

Your Server Application is now complete.

End of Server Installation

How to stop and start DVR services

The LuxRiot Software if it is setup on service Mode can be stopped by browsing the windows services (see Page 17). Or by using the DVR SERVER WIZARD



LuxRiot Terminology

Pane - Panel, window.

Toggle- To alternate between two or more electronic, mechanical, or computer-related options, usually by the operation of a single switch or keystroke.

Toolbar- The toolbar that you see at the top of your screen gives you various options such as open, save and various screen manipulations, at the click of a button.

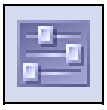
Open Configuration- This button on the toolbar allows you to open previous LuxRiot configurations. It is most useful if you are exporting configurations from one machine to another.

Save Configuration- This button on the toolbar allows you to save any changes that you have just made to your DVR, it will continue to save to the same file unless you click on *File* and *Save As* then you can save to a different file or even to a floppy.

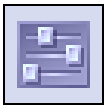
Structure Pane - This button toggles whether you see or don't see the *structure pane* on the left side of your LuxRiot window. The *structure pane* is most useful when you are looking at cameras from multiple locations and multiple LuxRiot servers. We will discuss the *structure pane* later on in this chapter.

Events - This button toggles the events window. The events window gives you important notifications such as, when you are connecting to a server successfully. It lets you know if you have input improper user names and passwords and gives you error codes when needed.

PTZ Control - This button toggles the PTZ control pane. If you do not have a pan-tilt-zoom camera connected to your system then this button does no need to be pressed.

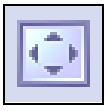


Video amplification- This button toggles the video amplification pane. When this button is pressed a pane will come up from which you will be able to adjust the brightness, contrast, saturation, sharpness, and hue for any camera.



Video amplification- This button toggles the video amplification pane. When this button is pressed a pane will come up from which you will be able to adjust the brightness, contrast, saturation, sharpness, and hue for any camera.

Audio- This buttom toggles Audio pane control. Audio pane enables you to listen to Audio from different cameras.



Full Screen - This button toggles full screen mode. In full screen, none of the panes will be seen and the cameras will be expanded to their maximum size to fill the full screen of your monitor.

Open Archive – This button opens archive viewer window. You will be able to view archived data of your connected DVR.

Manage Maps – This button toggles map module window for managing and viewing cameras on Google or previously added maps.

Save Current Frame as – This button allows you to save currently rendered video frame into file. Frame from selected screen will be saved only.

Wizards- The wizard's icon on the toolbar gives you a shortcut to various server, and camera options and configurations. You can also access these features through the right click menus in the software.

Views- These buttons on the toolbar allow you to manipulate your views and camera layouts to your own preference.

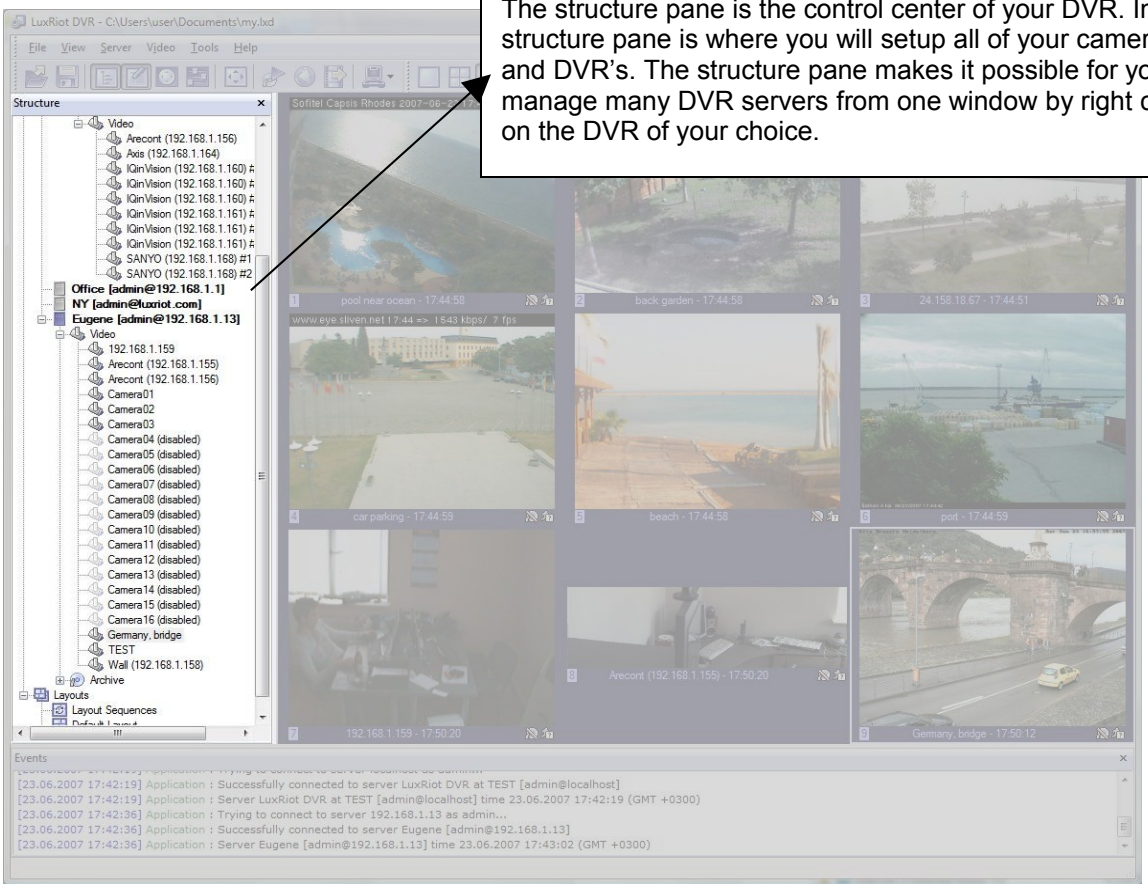
Screen Footer- The screen footer button on the toolbar allows you to display various information underneath each camera window. It can display frame rate, time, picture quality, recording, motion detection, and image size. The screen footer is the text below each camera

Stream Selection- The stream selection button allows you to pick which camera you would like to view in the selected camera window. This can also be done through the right click menus and by dragging the desired camera from the structure pane to the desired display window, or right click on any camera window and select stream.

Show Motion- The show motion toolbar button toggles whether or not you want the motion outlined on the selected camera screen. Note: Motion detection must be setup before this feature can be activated.

Maximize- When pressed the maximize button puts the selected camera into a single view, if pressed again it will return to the previous view. This can also be accomplished by double clicking on the camera of choice.

Structure Pane


The structure pane is the control center of your DVR. In the structure pane is where you will setup all of your cameras, and DVR's. The structure pane makes it possible for you to manage many DVR servers from one window by right click on the DVR of your choice.
LuxRiot DVR - C:\Users\user\Documents\my.lxd
File View Server Video Tools Help
Structure
Video
Arecont (192.168.1.156)
Axis (192.168.1.164)
SANYO (192.168.1.168) #1
SANYO (192.168.1.168) #2
Office [admin@192.168.1.1]
NY [admin@luxriot.com]
Eugene [admin@192.168.1.13]
Video
192.168.1.159
Arecont (192.168.1.155)
Arecont (192.168.1.156)
Camera01
Camera02
Camera03
Germany, bridge
TEST
Wall (192.168.1.158)
Archive
Layouts
Layout Sequences
Events
[23.06.2007 17:42:19] Application : Successfully connected to server LuxRiot DVR at TEST [admin@localhost]
[23.06.2007 17:42:19] Application : Server LuxRiot DVR at TEST [admin@localhost] time 23.06.2007 17:42:19 (GMT +0300)
[23.06.2007 17:42:36] Application : Trying to connect to server 192.168.1.13 as admin...
[23.06.2007 17:42:36] Application : Successfully connected to server Eugene [admin@192.168.1.13]
[23.06.2007 17:42:36] Application : Server Eugene [admin@192.168.1.13] time 23.06.2007 17:43:02 (GMT +0300)

Client Server Connections

Lets Begin Installing- begin the installation process by double clicking the LuxRiot setup file.

1st Screen- "**Welcome to the LuxRiot Digital Video Recorder Setup Wizard**"

Click next

2nd Screen- "**Software License Agreement**"

Please read and choose accept

Click next

3rd Screen- "**Select installation Destination**"

Changing the location is optional but not recommended.

Click next

4th Screen- "**Select Components**"

Leave the "***LUXRIOT SERVER APPLICATION***" unchecked, since we are now installing only the Client or the GUI (Graphic User Interface) portion of the LuxRiot package. The remaining options are for the LuxRiot "Quick Guide" a quick guide to getting started (optional) and the LuxRiot Demo connection, which will install a connection to our live Demo (optional). You can always remove our connection at a later time if you so choose.

Click next

5th Screen- "**Select Start Menu Folder**"

Changing the location is optional but not recommended.

Click next

6th Screen- "**Additional Icons**"

These are shortcuts and are recommended but optional.

Click next

7th Screen- "**Ready to Install**"

LuxRiot Video Recorder and options will now be installed.

Click Install

8th Screen- "**Completing the LuxRiot Digital Video Recorder Setup Wizard**"

Click Finish

Your Client Application Installation is now complete. Now let's configure your LUXRIOT Digital Video Recorder and get you viewing your cameras.

Control Server or Servers from your client application

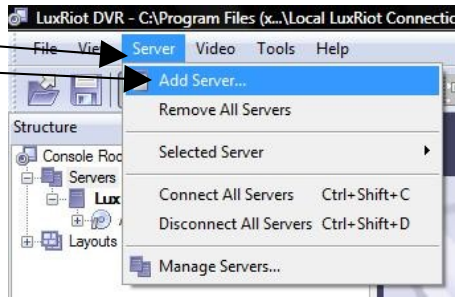
Double click your LuxRiot Client icon from your desktop.

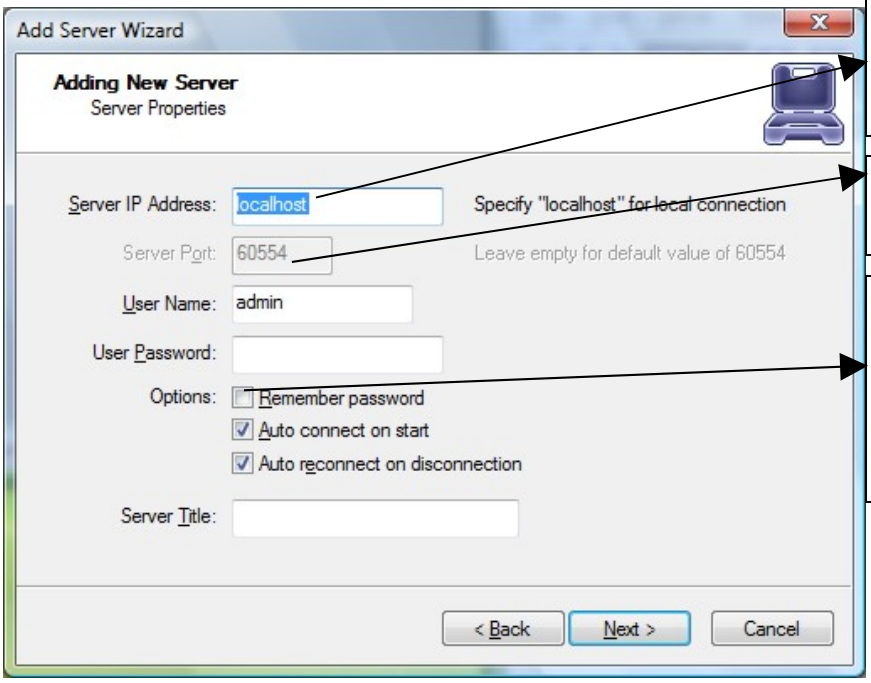
We will now add your Server information to your Client application.

From the top bar menu
- Locate the word “Server”
- Choose “Add Server”

Add a new server.
- The Add Server Wizard will open
- Choose Next

“Adding New Server” Screen is were you will enter your data





The IP or the DNS of the server you want to connect. If the server is on the same Machine Type localhost

The port your server is running on

Remember Password: If you choose to leave this field unchecked every time you try to log on the server will request a password to let you in.

Auto Connect on start- this will auto connect to your server as soon as you open the Client.
Auto reconnect on disconnection- will automatically try to reconnect you in the event of disconnection.

Click Next

Now go to File – Save As- Find your LuxRiot Client on your desktop – highlight it so the name appears in the save as portion- click save. It will tell you that Client already exists and if you want to override it, click yes or your new server will not be saved in your server list on the left and you will have to reenter your information when you reopen the program.

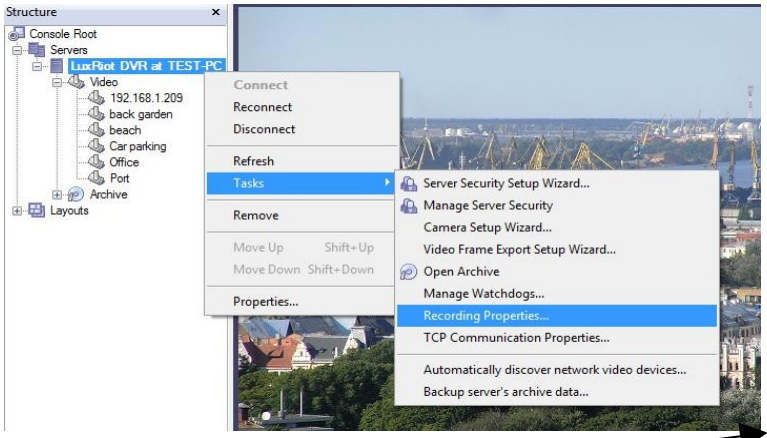
Wizard Complete. You should now have video feed of your cameras. The next two chapters will teach you how to configure your DVR to your specifications.

End of Client Installation

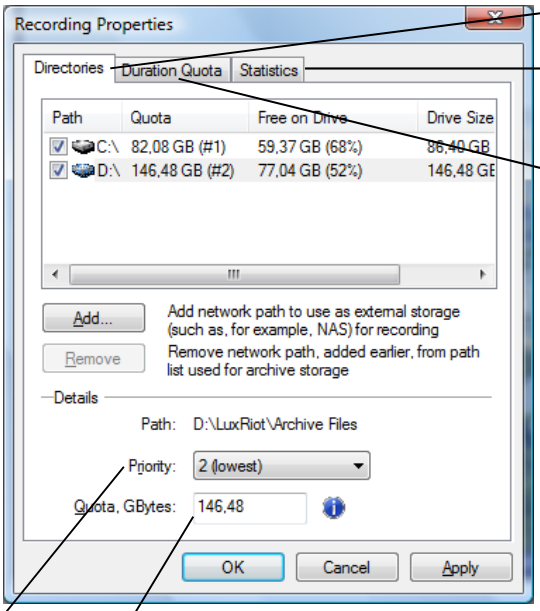
Chapter 3

Server Recording Properties

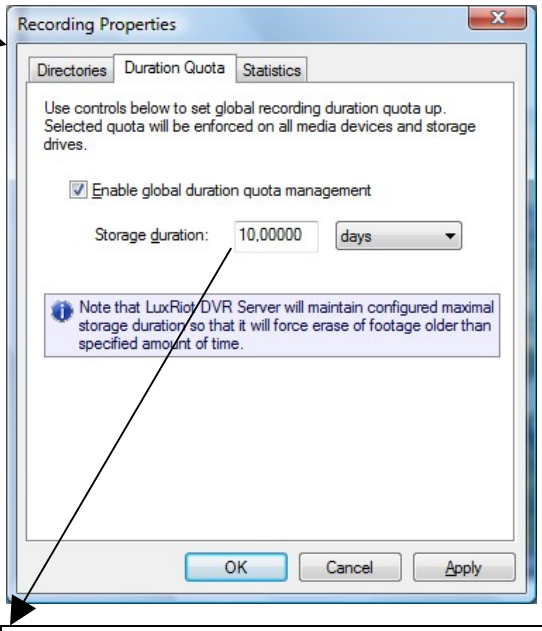
Right click on your server
Choose Tasks
Recording Properties



Directories- This is where you will see your available hard drive space. When you check and highlight either drive, the details option below will become available for further data entry. If you do not want your C drive to be used for storage, do not check it. If you do but only wish for a small portion to be used, below is where we will define that need.



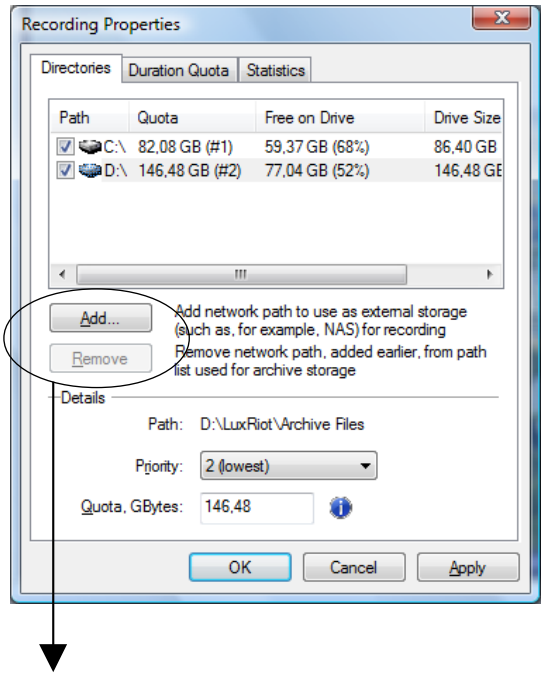
Statistics- Here you can check on used spaced and available space left on the hard drives being used by LuxRiot.


Recording Properties
Directories
Duration Quota
Statistics
Use controls below to set global recording duration quota up. Selected quota will be enforced on all media devices and storage drives.
Enable global duration quota management
Storage duration: 10,00000 days
Note that LuxRiot DVR Server will maintain configured maximal storage duration so that it will force erase of footage older than specified amount of time.
OK
Cancel
Apply

Priority- Your priority option, is for you to choose which of your drives records first. You must first check and then highlight (by clicking one time) the drive you wish to customize in this portion

Storage Duration- Here you chose the numbers of days you would like to store.

Quota - Here you chose the amount of space you would like to designate for storage on that particular hard drive. NOTE: NEVER, choose 100% for the C Drive. This may cause your machine to eventually crash due to not available virtual memory for page. The reasonable quota is 85-90% of the drive capacity to avoid affect of fragmentation issues and also to allow the highly loaded DVR to effectively enforce recording quotas



Add network storage path

Add - Here you can add external storage address for recording such as sharing on the remote computer or NAS drive.

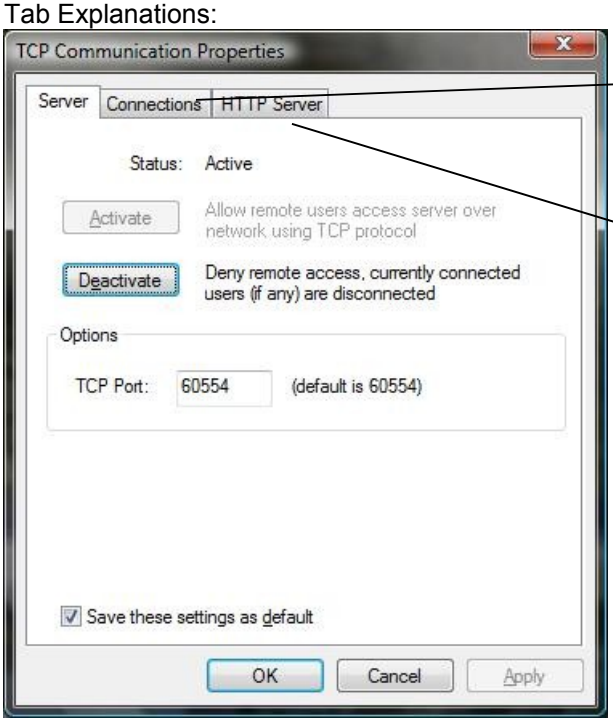
Remove – this button removes currently selected network storage path.

Add network storage path
Specify an external location, such as network share, to use as a remote storage for LuxRiot DVR Server archive data.
Path should be specified in UNC format (\\Server\Share\LuxRiot\Archive Files). It is recommended to use LuxRiot\Archive Files subdirectory on external drive.
Path: \\Server\Share\LuxRiot\Archive Files
Browse...
Specify user name to connect to remote location as. Please note that user name override is mandatory when LuxRiot DVR Server is running as a service. Leave the fields blank to use default access.
User name: HOST\username
Password: ••••••••
OK
Cancel

End of Server Recording Properties

Server Communication Properties

Right click on your server
Choose Tasks
TCP Communication Properties
Tab Explanations:



Connections- Here you can see at all times who is connected to your server. The IP address, user name and connection time can all be seen. Click refresh at any time for an updated list.

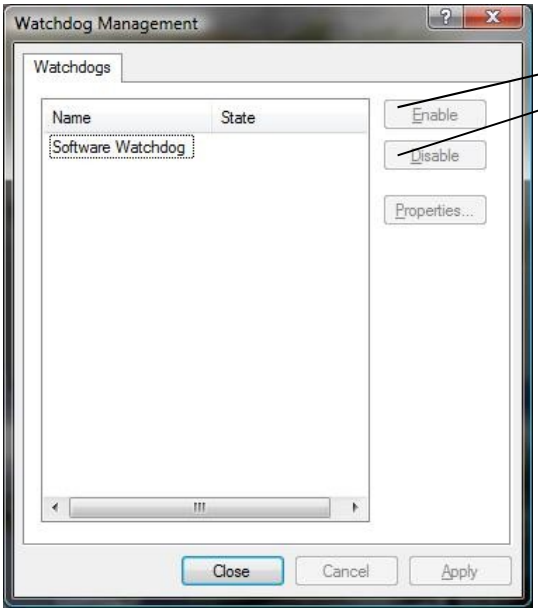
Settings for the HTTP Server for remote connections from a web-browser

End of Server Communication Properties

Server Watchdog

Your Server Watchdog performs an important operation, protecting your software from improperly working due to system problems. Configuring your watchdog is not necessary, if you chose to enable it during installation. The default settings will work well, however if you are having frequent restarts or for maintenance adjusting it may become vital.

-Right click on your server
-Choose Tasks
-Manage Watchdog



Watchdog- In order to use the Disable, Enable and Properties tabs, you must first highlight "Software Watchdog" by left clicking one time.

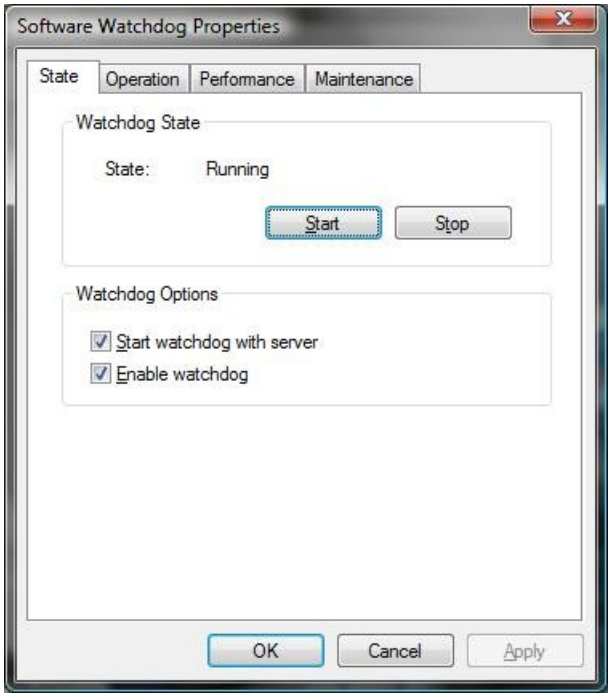
Click Properties

Server Watchdog Properties

State- Start or Stop Running Watchdog.

Start Watchdog with Server-
Will begin the Watchdog application when server is started.

Enable Watchdog-
Will keep Watchdog running at all times.

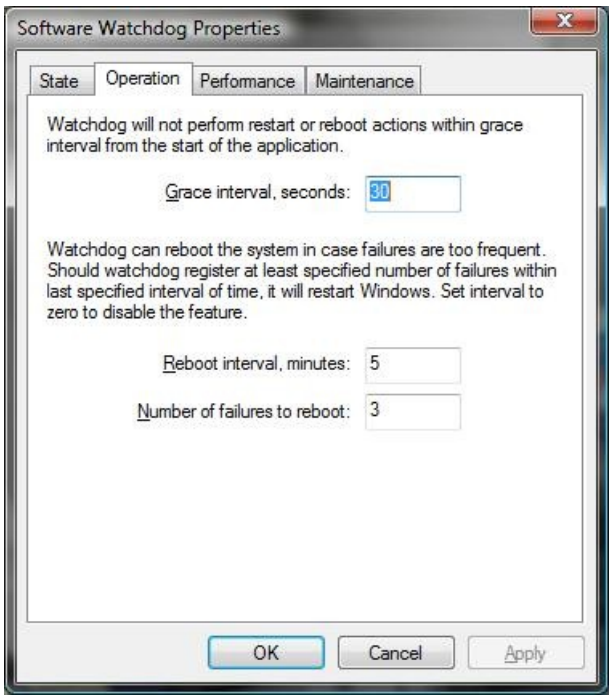


Watchdog Operation

Grace Interval Seconds- The grace period given when starting the application.

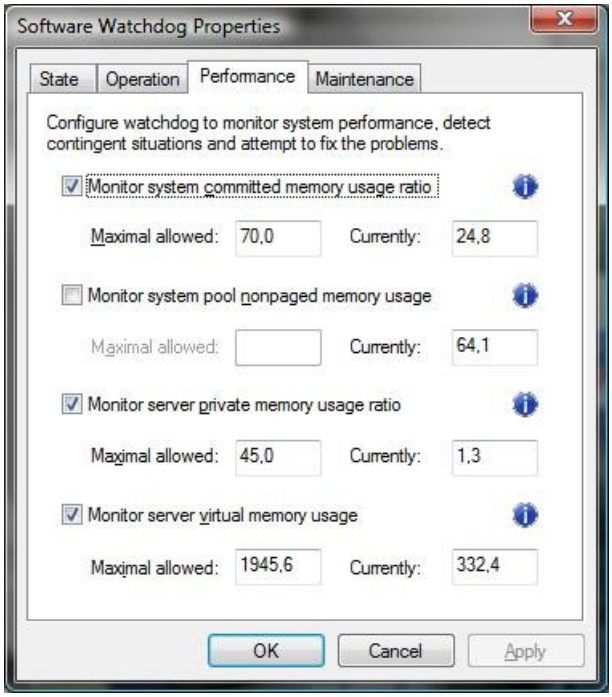
Reboot Interval Minutes- The amount of time Watchdog will allow between reboots.

Number of Failure to Reboot- The amount of failed attempts to fix, whatever problem has been detected, by restarting only the LuxRiot application. Once this number has been reached, Watchdog will now reboot Windows and the LuxRiot application.


Software Watchdog Properties
State
Operation
Performance
Maintenance
Watchdog will not perform restart or reboot actions within grace interval from the start of the application.
Grace interval, seconds:
30
Watchdog can reboot the system in case failures are too frequent. Should watchdog register at least specified number of failures within last specified interval of time, it will restart Windows. Set interval to zero to disable the feature.
Reboot interval, minutes:
5
Number of failures to reboot:
3
OK
Cancel
Apply

Performance

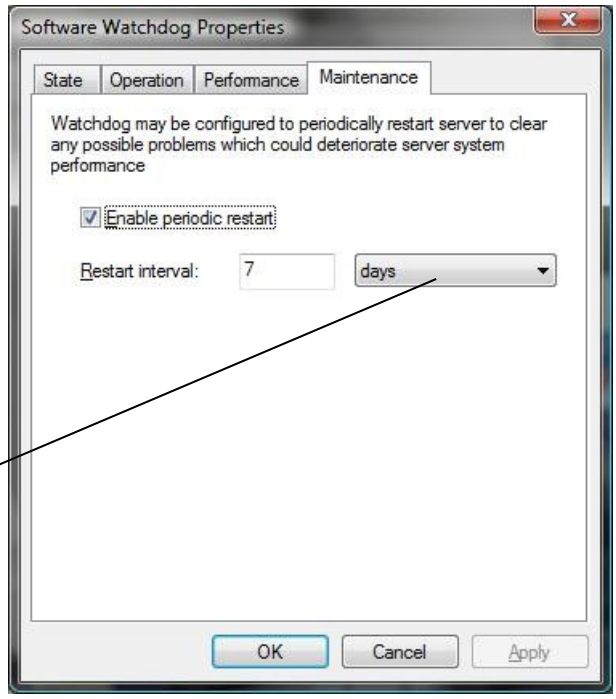
This property tab allows you to configure which environment performance counters and variables will determine necessity of server or system restart. Watchdog will attempt to restart server or system after any specified threshold exceeding, There are also visible current values of the environment variables.



Maintenance-

Enable Periodic Restart-
Enabling this feature will restart the Server Application at times specified. It is recommended to restart the Server Application to Refresh system resources. **The Watchdog Server-Restart will go Virtually unnoticed by the user.**

If you made any changes click Apply then OK

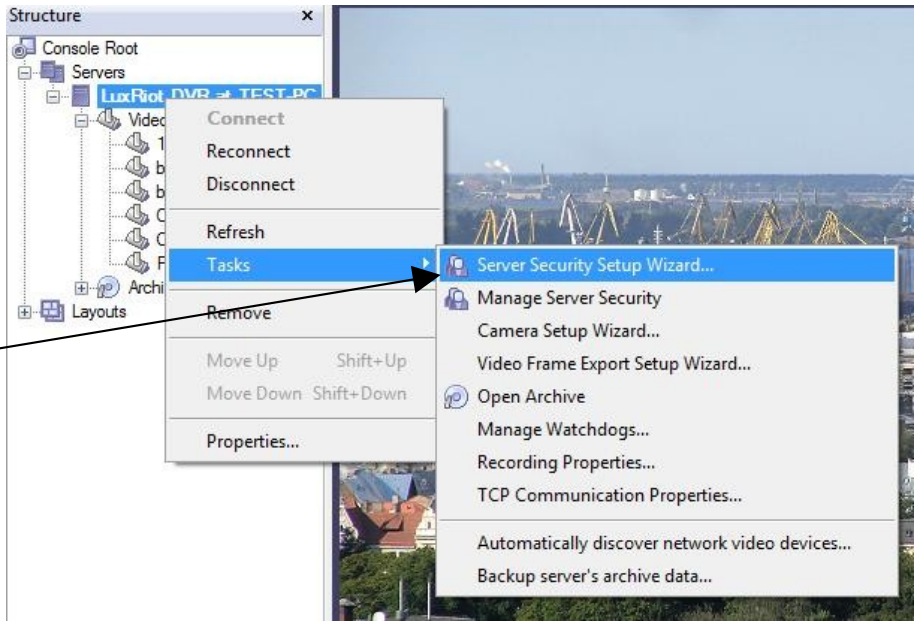


Days or Hours

End of Watchdog

Server User Management

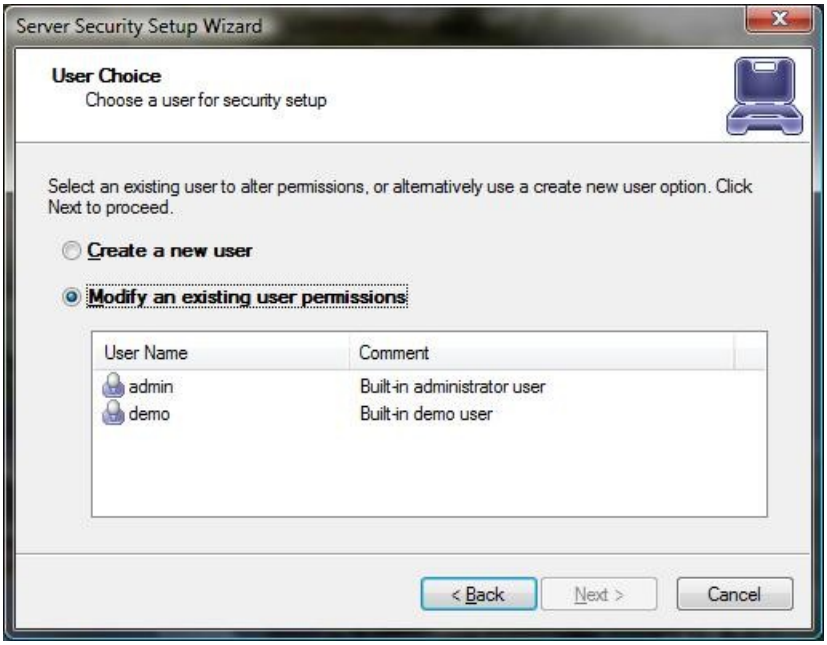
You can start the Server Security Wizard by right-click on the server within the Structure pane, then Tasks and then by choosing the “Server Security Wizard”.



Explanations-

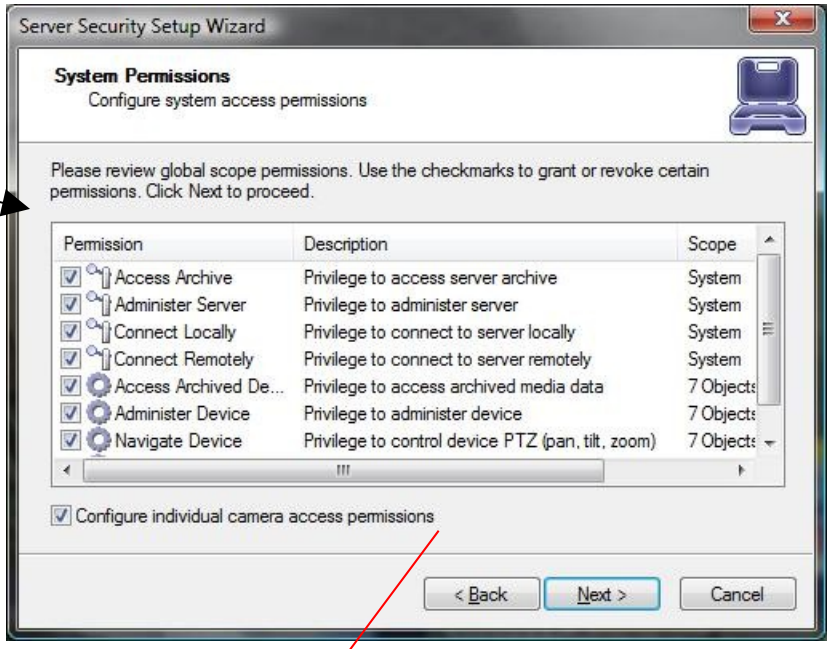
Create Users or modify existing user rights

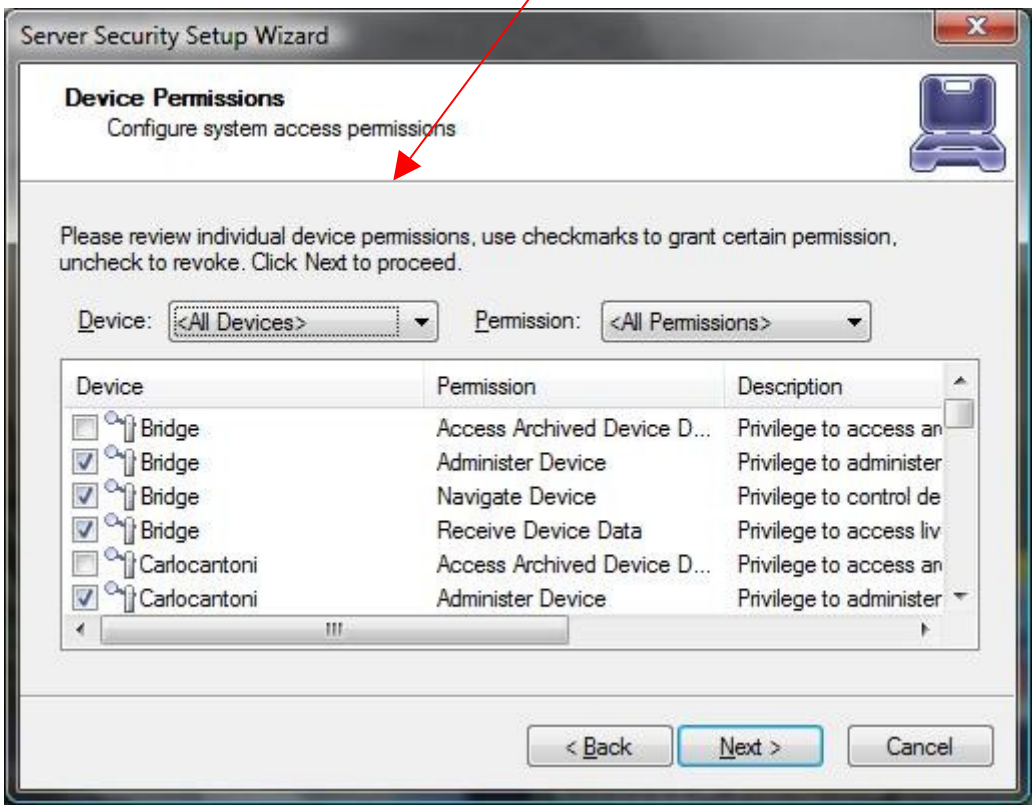
This wizard guides you step by step to add, remove, or modify user permissions.


Server Security Setup Wizard
User Choice
Choose a user for security setup
Select an existing user to alter permissions, or alternatively use a create new user option. Click Next to proceed.
Create a new user
Modify an existing user permissions
User Name
Comment
admin
Built-in administrator user
demo
Built-in demo user
< Back
Next >
Cancel

System/User Permissions-

As you see LuxRiot User Permissions provides Global Scope permissions for better user management.

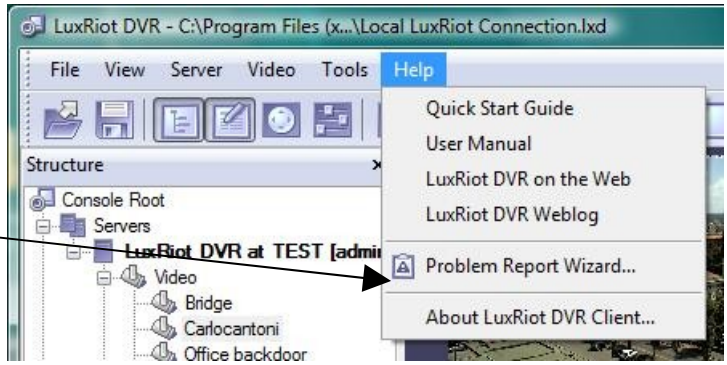


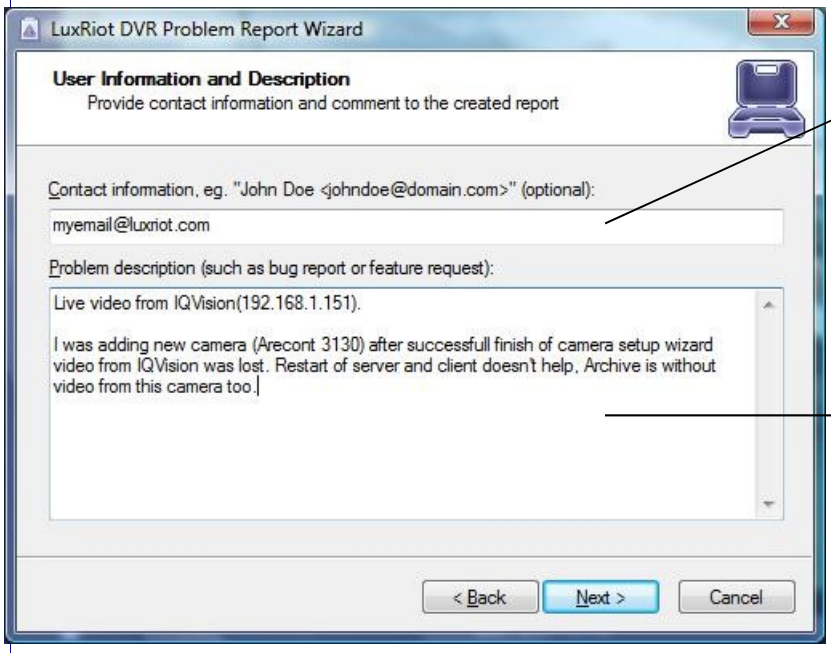


End of User Management

Submitting A Problem Report

Manually- if you go to the Help icon, you will see "Problem Report Wizard"
Click on it and fill in the information requested.



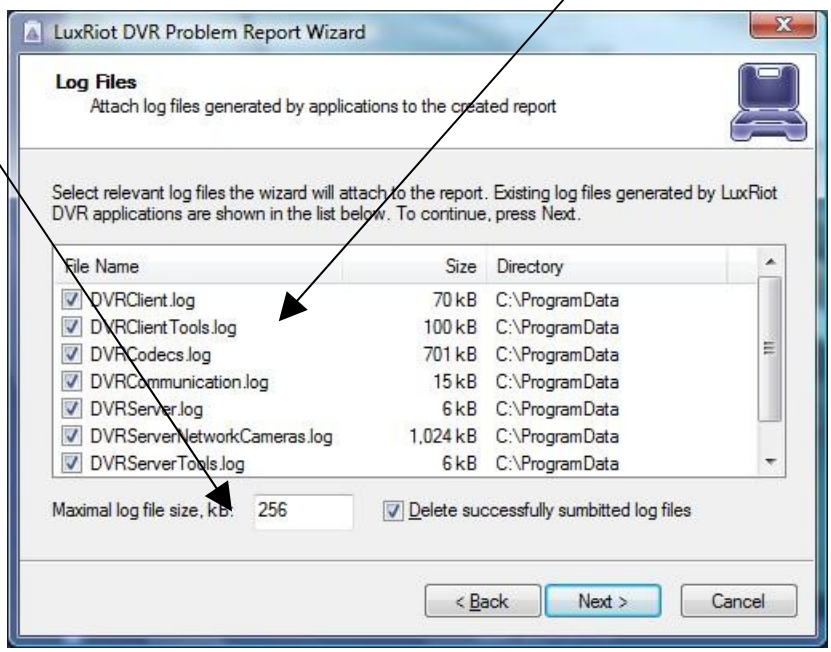

LuxRiot DVR Problem Report Wizard
User Information and Description
Provide contact information and comment to the created report
Contact information, eg. "John Doe <johndoe@domain.com>" (optional):
myemail@luxriot.com
Problem description (such as bug report or feature request):
Live video from IQVision(192.168.1.151).
I was adding new camera (Arecont 3130) after successfull finish of camera setup wizard video from IQVision was lost. Restart of server and client doesn't help, Archive is without video from this camera too.
< Back
Next >
Cancel

Specify your e-mail, LuxRiot support team will contact you by sending mail at this address. Make sure that spam filter doesn't deletes our messages recognizing them as spam.

Describe your problem as detailed as possible, try to repeat your issue and describe what was you achieving when problem appeared. Do not hesitate to send error reports with new feature requests or suggestions. If your problem is specific camera related problem do not forget to write it's model.

Check what log files do we need to resolve this issue, however it is strongly recommended to send us all log files.

Please note that log files are truncated to the maximum size limit when submitting report. You could increase this limit here if you see that log files size is larger than it's submitting limit.


LuxRiot DVR Problem Report Wizard
Log Files
Attach log files generated by applications to the created report
Select relevant log files the wizard will attach to the report. Existing log files generated by LuxRiot DVR applications are shown in the list below. To continue, press Next.
File Name Size Directory
DVRClient.log 70 kB C:\ProgramData
DVRClientTools.log 100 kB C:\ProgramData
DVRCodecs.log 701 kB C:\ProgramData
DVRCommunication.log 15 kB C:\ProgramData
DVRServer.log 6 kB C:\ProgramData
DVRServerNetworkCameras.log 1,024 kB C:\ProgramData
DVRServerTools.log 6 kB C:\ProgramData
Maximal log file size, kB: 256
Delete successfully sumbitted log files
< Back
Next >
Cancel

LuxRiot greatly appreciates, your efforts and takes all problem reports seriously. Thank you again for your cooperation.

End of Submitting A Problem Report

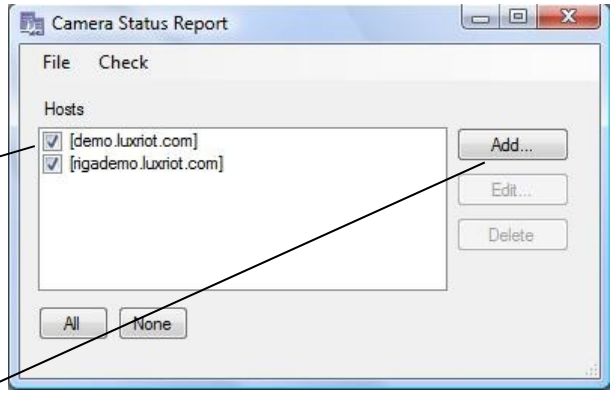
Camera Status Report

Requires .NET Framework from Microsoft installed.

Camera status report, is helper application that helps you to connect and to monitor one or more remote LuxRiot DVR servers. The application is capable of showing up to date status of operation and recording on a per camera basis.

The Application can be found within the Luxriot Wizards or can be started from Start menu: Start -> Programs -> LuxRiot Digital Video Recorder -> Tools -> DVR Server Camera Status Report

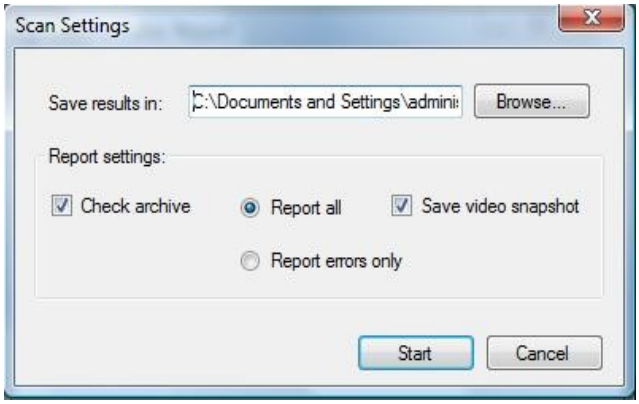
You can first browse and select the server connections of your choice that you want to have a report. Regardles if the servers are local or remote. or...



You need to add server by pressing button «Add» and then fill in all fields:

When the server is added to the list you can then check the cameras status by pressing: Check -> Start The Scan Settings window allows you to select settings in which you require report.

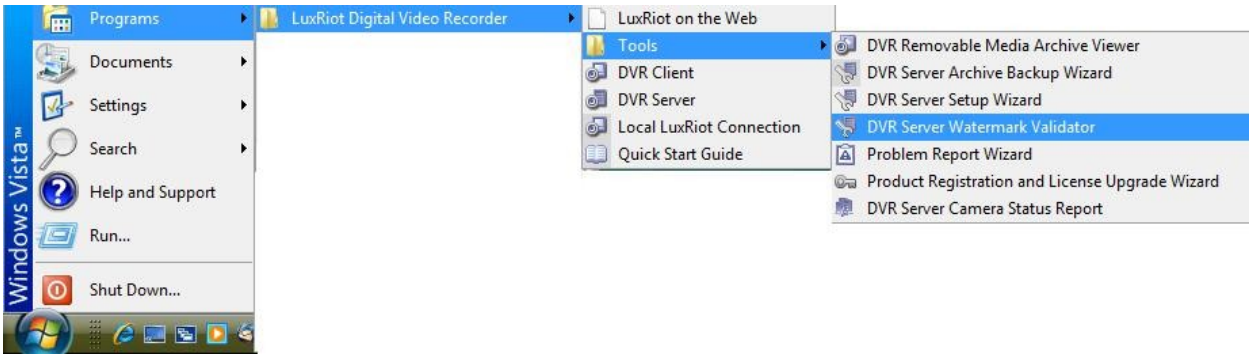
Pressing «Start» will show you all information about cameras on servers



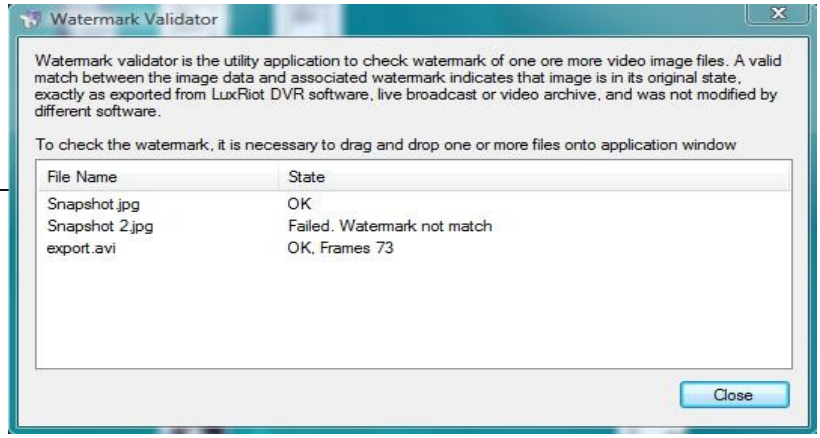
End of Camera status report.

Watermark Validator

The application can be started from Start menu: Start -> Programs -> LuxRiot Digital Video Recorder -> Tools -> DVR Server Watermark Validator



To check the watermark it is necessary to drag and drop one or more file onto application window.


Watermark Validator
Watermark validator is the utility application to check watermark of one ore more video image files. A valid match between the image data and associated watermark indicates that image is in its original state, exactly as exported from LuxRiot DVR software, live broadcast or video archive, and was not modified by different software.
To check the watermark, it is necessary to drag and drop one or more files onto application window
File Name
State
Snapshot.jpg
OK
Snapshot 2.jpg
Failed. Watermark not match
export.avi
OK, Frames 73
Close

End of Watermark validator.

Chapter 4

Setting up an IP camera

There are two ways of setting up an IP camera to work with LuxRiot:
One-way is to let the software find the cameras **automatically**
Another is to **manually** input all of the camera's IP information.

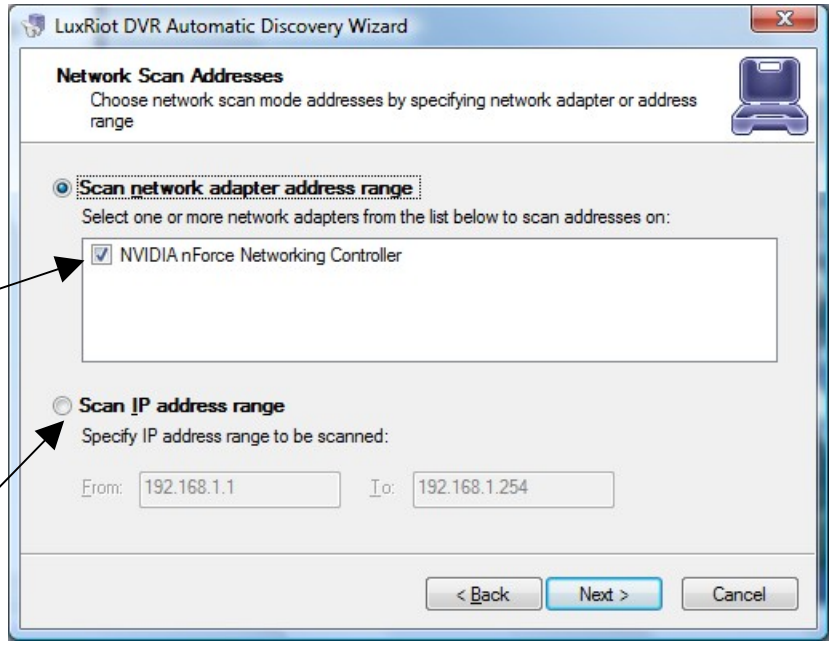
IP Servers
Note: LuxRiot also works with IP servers such as PiXORD-4000, which are Internet-based digital video server appliances, capable of connecting one or several channels of video sources to distribute their compressed live video into Intranet-Internet through Ethernet connection. IP Servers let you use regular CCTV cameras as IP cameras; therefore getting rid of the sixteen camera limitation that is seen with most DVR applications. Also if all of your cameras are connected to an IP server with a WAN IP then you do not need to install LuxRiot on the premises, but instead you can have LuxRiot running miles away (SEE PAGE 11) as long as it is connected to the internet.

Configure your IP cameras automatically.
-Right click on your server name
-Left click tasks
-Left click Auto discover network video devices. Then the LuxRiot DVR Automatic Discovery Wizard will appear.

-Click Next

If you have chosen Local Area network search you should choose network adapters for searching their networks

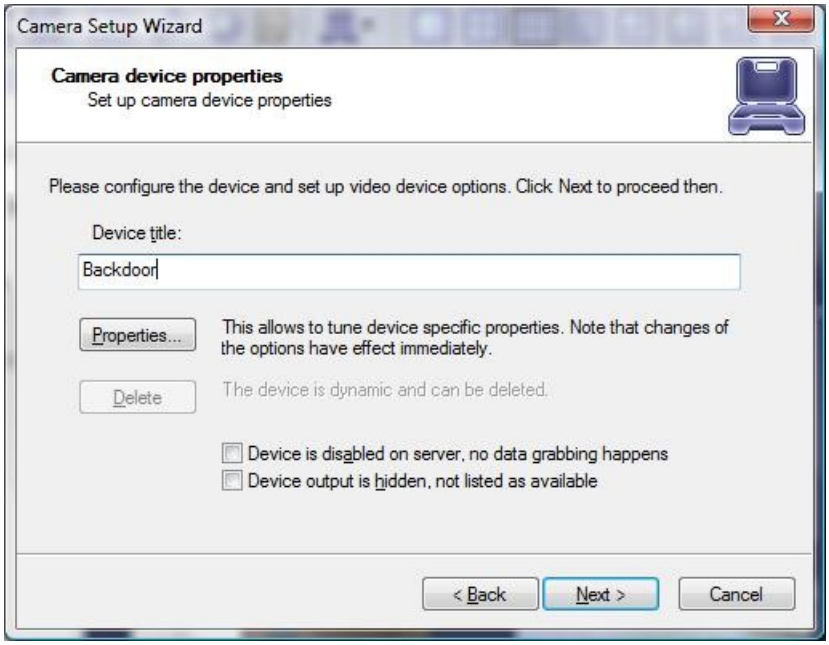
Optional- if you know your networks IP range,
you can search by the IP range for the cameras as well.


LuxRiot DVR Automatic Discovery Wizard
Network Scan Addresses
Choose network scan mode addresses by specifying network adapter or address range
Scan network adapter address range
Select one or more network adapters from the list below to scan addresses on:
NVIDIA nForce Networking Controller
Scan IP address range
Specify IP address range to be scanned:
From: 192.168.1.1
To: 192.168.1.254
< Back
Next >
Cancel

LuxRiot will now begin scanning your network and
specified ports for any IP cameras. Once it is finished it will give you a list of the cameras that it found and give you an option to add them to LuxRiot.

Configure your IP cameras manually.

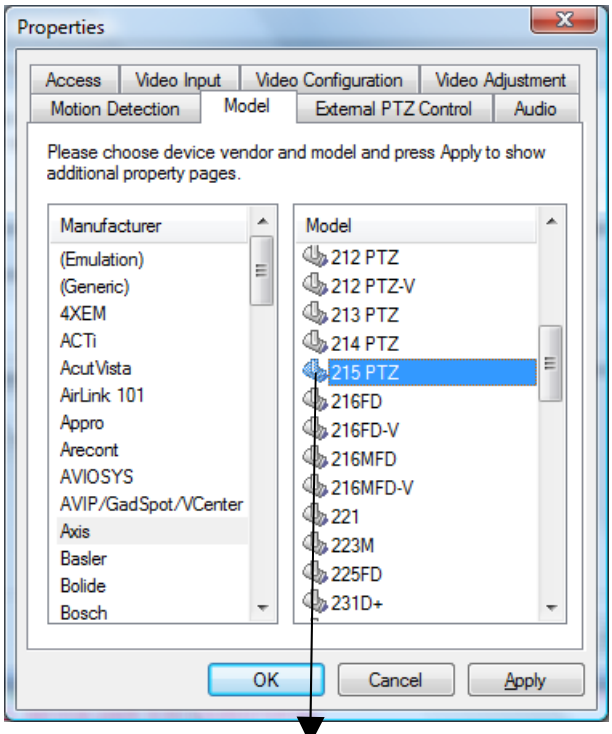
-Right click on the server name
-Choose tasks
-Choose camera setup wizard
-From the first window in the wizard select “Network Devices (IP Camera, Video Server)”
-Click Next.
Device Title - Name the camera.
Click Properties


Camera Setup Wizard
Camera device properties
Set up camera device properties
Please configure the device and set up video device options. Click Next to proceed then.
Device title:
Backdoor
Properties...
This allows to tune device specific properties. Note that changes of the options have effect immediately.
Delete
The device is dynamic and can be deleted.
Device is disabled on server, no data grabbing happens
Device output is hidden, not listed as available
< Back
Next >
Cancel

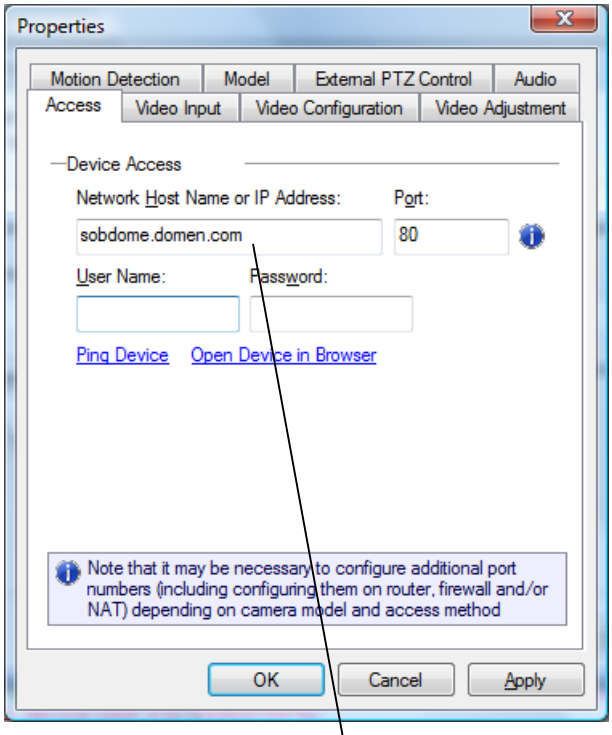
Properties- Tab Explanations

Access Tab

Note: If you are using a video server you can select the output channel for this camera from the advanced menu.

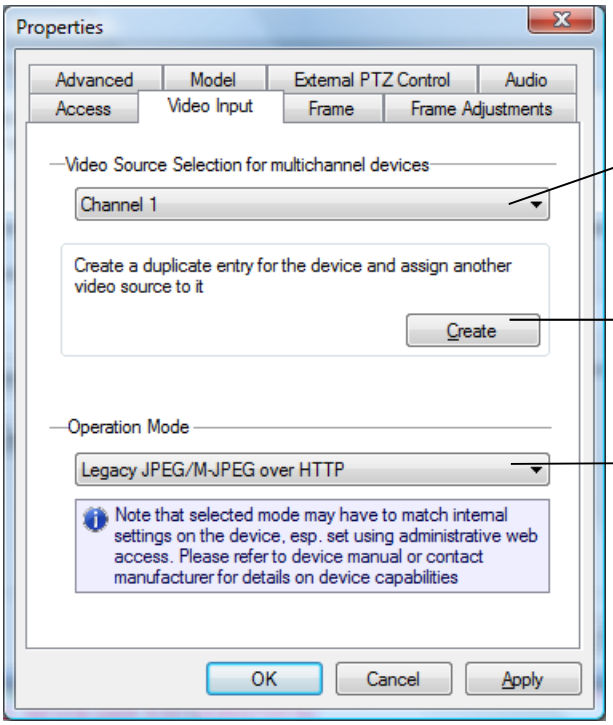


Select the camera type that you are using from the drop down menu. **Or if** you are using an IP server select from the same Menu. (You can then select the camera input from the advance menu).



Input the IP address of the IP Camera

Video Input Tab

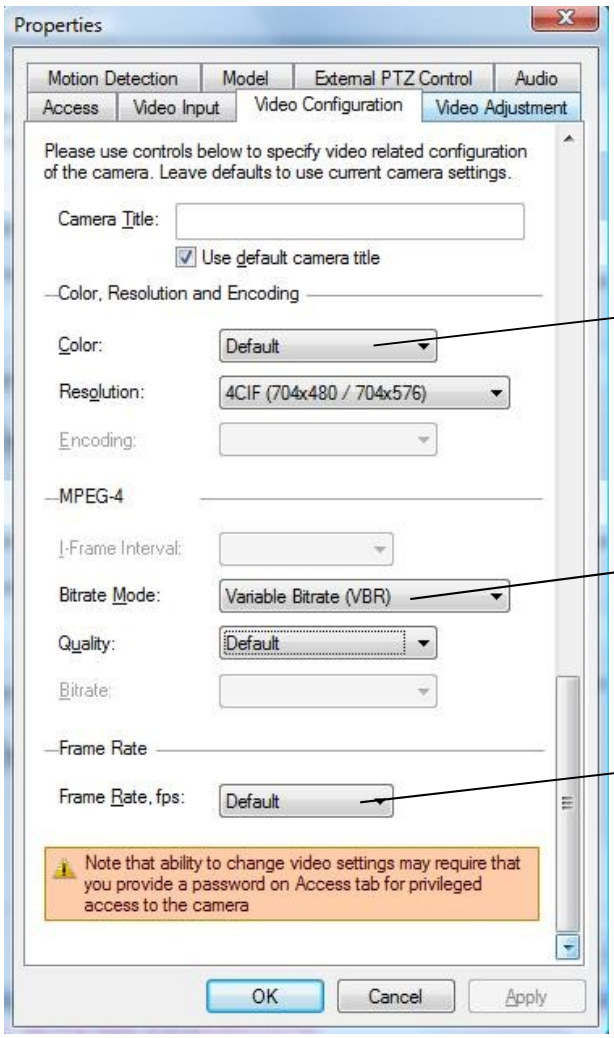

Properties
Advanced
Model
External PTZ Control
Audio
Access
Video Input
Frame
Frame Adjustments
Video Source Selection for multichannel devices
Channel 1
Create a duplicate entry for the device and assign another video source to it
Create
Operation Mode
Legacy JPEG/M-JPEG over HTTP
Note that selected mode may have to match internal settings on the device, esp. set using administrative web access. Please refer to device manual or contact manufacturer for details on device capabilities
OK
Cancel
Apply

Video channel selection for a multichannel device.

Add a new channel if device support the creation of a new channel.

Choose Operation mode supported for the actual device.

Video Configuration Tab

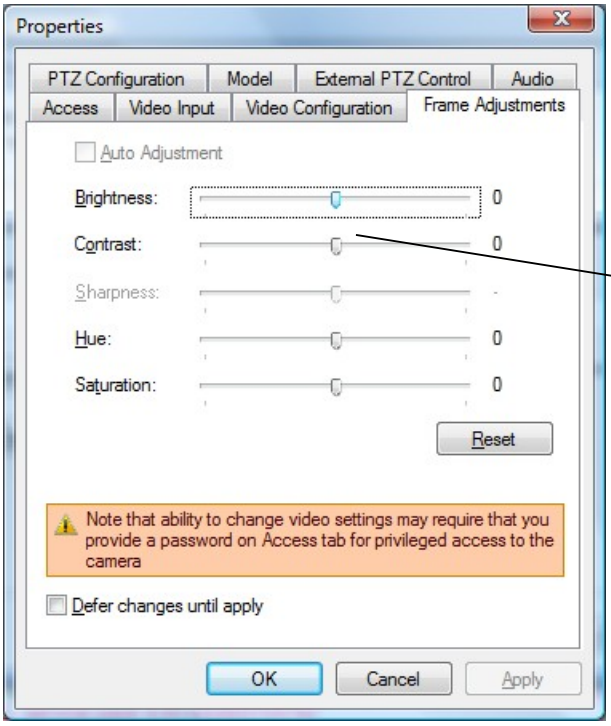


Dimensions- Quality of the picture. The higher quality you choose the more space it will take
Color Mode- Color or black and white

Codec's section, Bitrate mode, Quality

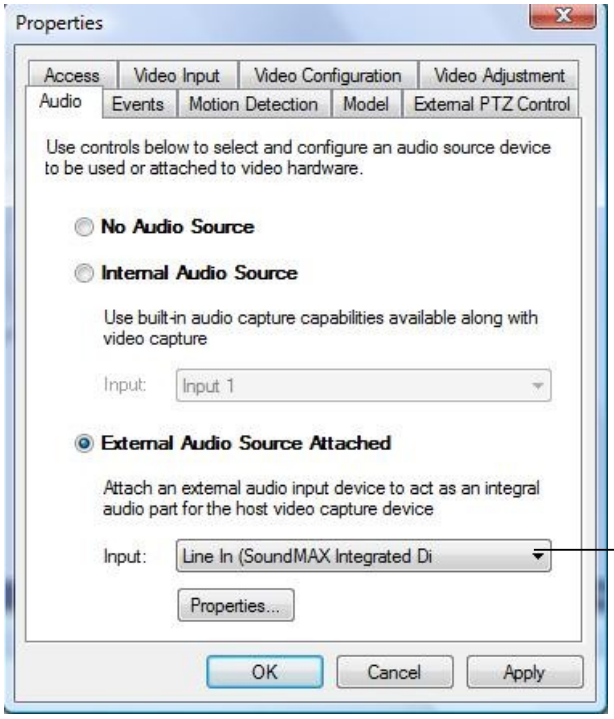
Here you may adjust the frame rate for the encoder or ip camera.

Frame adjustment Tab



Brightness, Contrast, etc… Change the appearance of your video quality.

Audio Tab

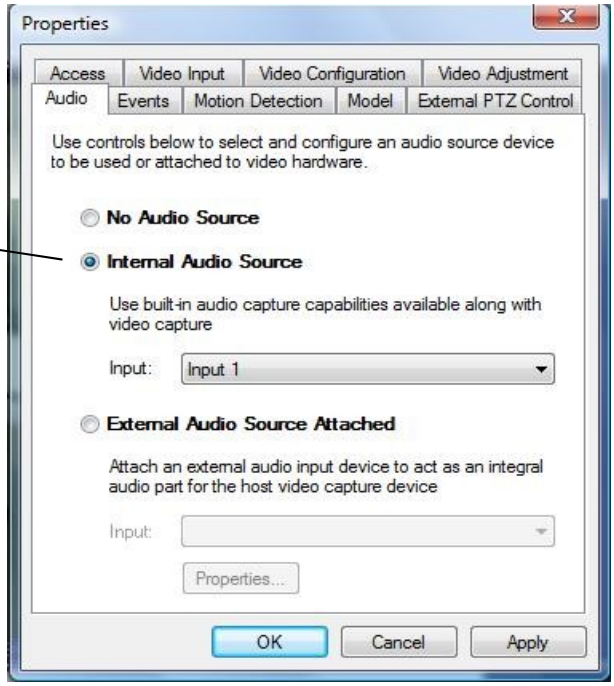


Audio Input. Audio input can be the audio in of the pc main-board or additional usb audios.
One way audio is supported for HP4000EX boards (up to 32 channels)
Two way audio is supported for for IP Network cameras (currently supported cameras for two-way Audio is Axis, Sanyo HD, and KT&C)

Two-Way Audio

Two way audio is supported for for IP Network cameras (currently supported cameras for two-way Audio is Axis, Sanyo HD, and KT&C). “more manufactures will be integrated for 2 way audio”

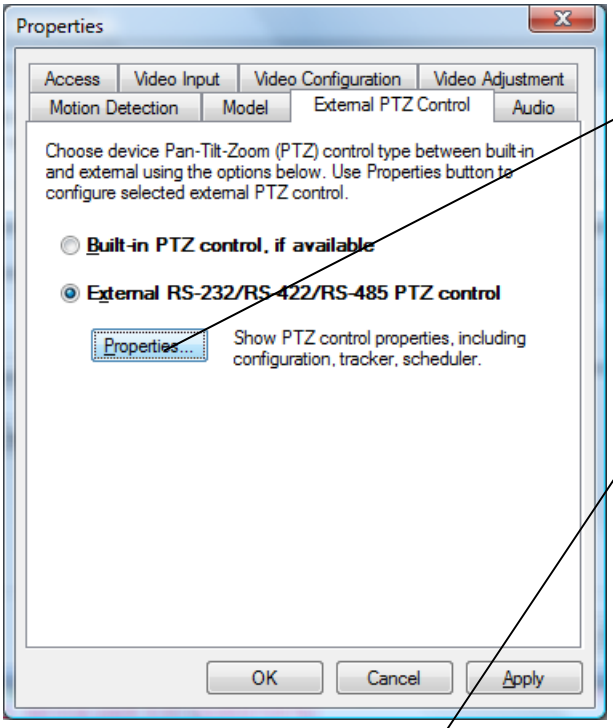
Options for Internal Audio Source from an IP camera can be found under the camera properties. From the Audio Tab the internal Audio source can be selected and activated. If the camera selected is not an audio compatible camera then the option will not be activated. In the case that the camera is not supporting internal audio you can select external audio and use a usb microphone (for one way audio) or the built in Mic from the pc main-board.

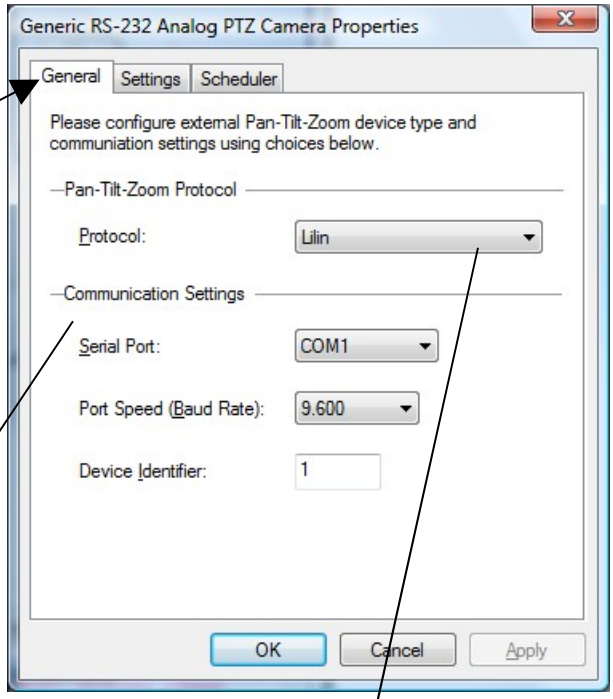


Audio to the camera can be send via Client application Audio Pane .

By selecting a camera from the list and press and hold microphone icon. When icon pressed you can speed into microphone connected to Cleint PC and audio should be sent to the speaker connected to the remote camera.

External PTZ Tab



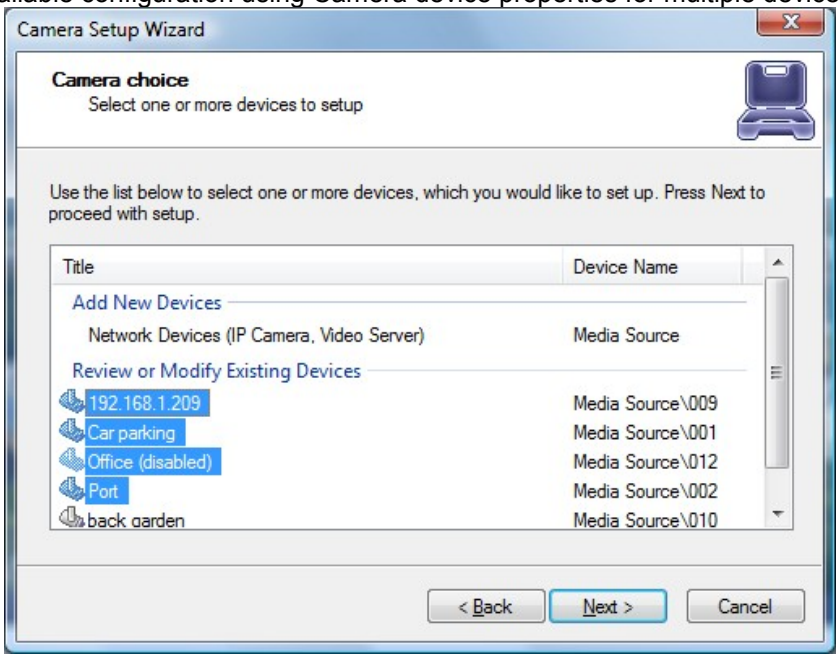


Communication Settings:
the communication port has to match the communication port that the RS232/485 controller is connected.
Baud rate has to match the baud rate of your ptz camera.
Device Identifier, is a unique ID that has to be set on ptz cameras. Having multiple PTZ cameras requires a unique id to be set on every individual ptz camera. Failing to assign a unique id to every single ptz camera will result for all cameras to move at the same time.

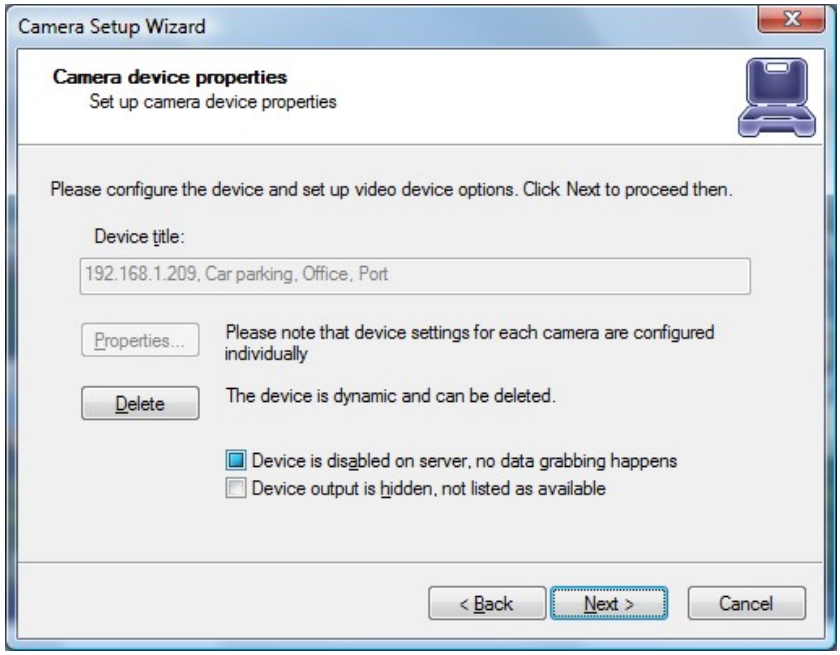
Protocol:
If you do have a pan-tilt-zoom camera connected you must choose the communication protocol set for your PTZ camera. The protocol has to match the protocol assign on your PTZ camera.

Configure multiple cameras.

Description of available configuration using Camera device properties for multiple devices.



For the multiple selection of several devices, click on mouse button while holding down the Shift key and clicking in the window and drag the pointer diagonally, providing drawing frame.


Camera Setup Wizard
Camera device properties
Set up camera device properties
Please configure the device and set up video device options. Click Next to proceed then.
Device title:
192.168.1.209, Car parking, Office, Port
Properties...
Please note that device settings for each camera are configured individually
Delete
The device is dynamic and can be deleted.
Device is disabled on server, no data grabbing happens
Device output is hidden, not listed as available
< Back
Next >
Cancel

When you change the camera settings, you must remember that the camera may already have some of the settings.

Type of check-box will help you determine what state is the option you want to change.

- Some devices have this setting is unspecified
- All devices have this setting is unspecified
- All devices have this setting is unspecified

CCTV Camera Configuration

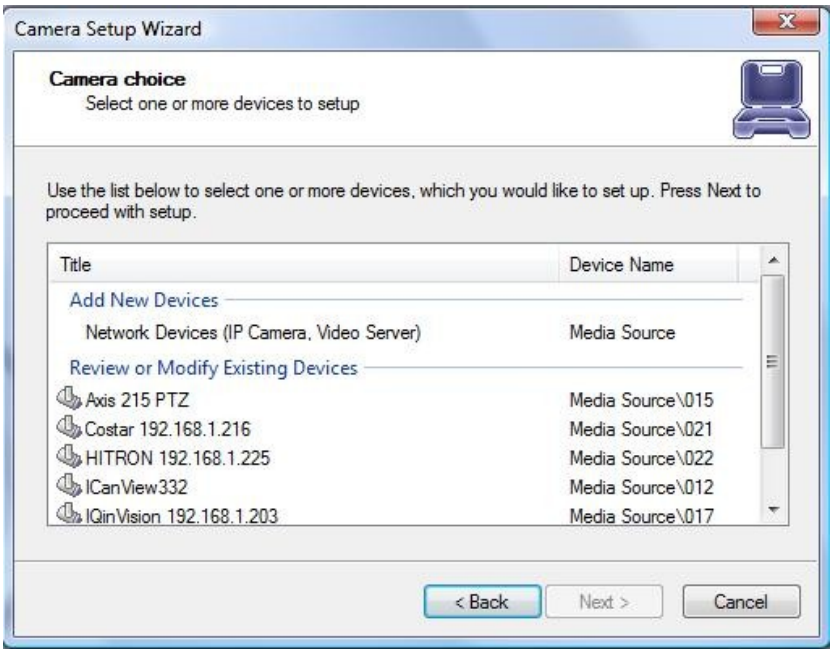
To setup a CCTV or Direct Show compatible camera we will use the Camera Setup Wizard Right click on your server name located on the left side of the LuxRiot window choose tasks “Camera Setup Wizard”.

Click Next

2nd Screen- “**Camera Choice**”

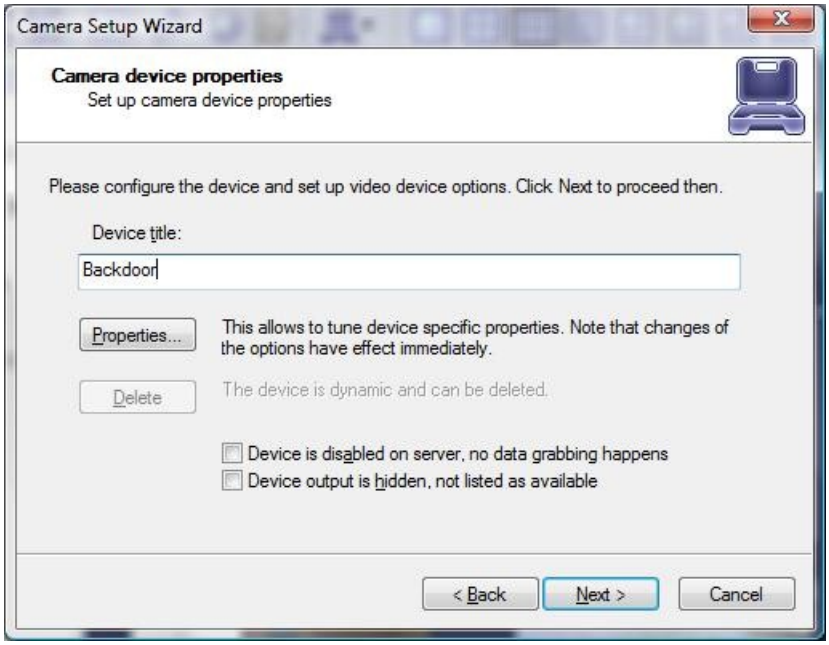
Select the camera, which we will be configuring.

Click Next



3rd Screen- “**Device Title**”

Feel free to name your camera anything you find helpful and then choose properties.

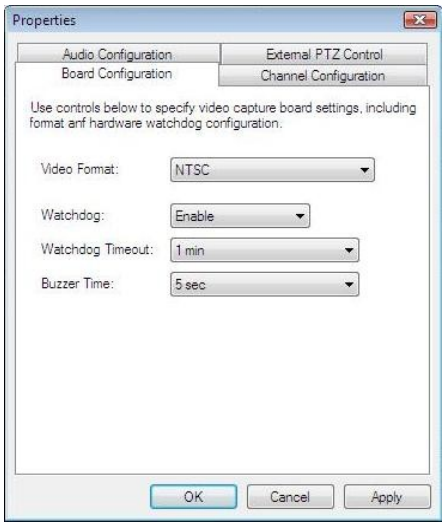

Camera Setup Wizard
Camera device properties
Set up camera device properties
Please configure the device and set up video device options. Click Next to proceed then.
Device title:
Backdoor
Properties...
This allows to tune device specific properties. Note that changes of the options have effect immediately.
Delete
The device is dynamic and can be deleted.
Device is disabled on server, no data grabbing happens
Device output is hidden, not listed as available
< Back
Next >
Cancel

Board configuration Tab

Available only if you have the **HP4000EX** Frame Grabber

Video System- choose your format NTSC, Pal, etc. Note: This is a global configuration for all cameras.
Watchdog- Adjust watchdog timeout.

Defer changes until Apply- If checked this would ignore the changes you made until “Apply” or “OK” have been hit.



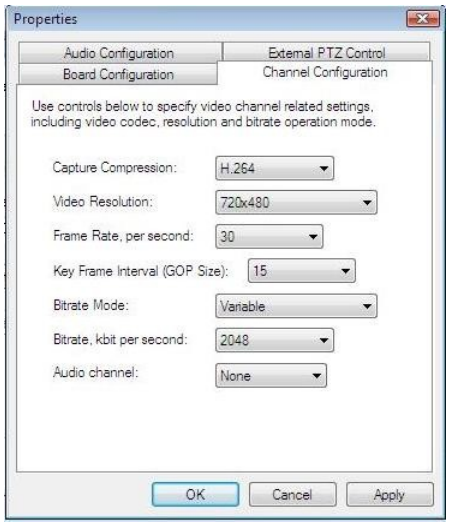
Channel configuration board Tab

Available only if you have the **HP4000EX** Frame Grabber

Frame Rate - Here you can choose to increase or decrease your frame rate. Note: for this board you can adjust frame rate camera by camera from 1fps to 30 fps.

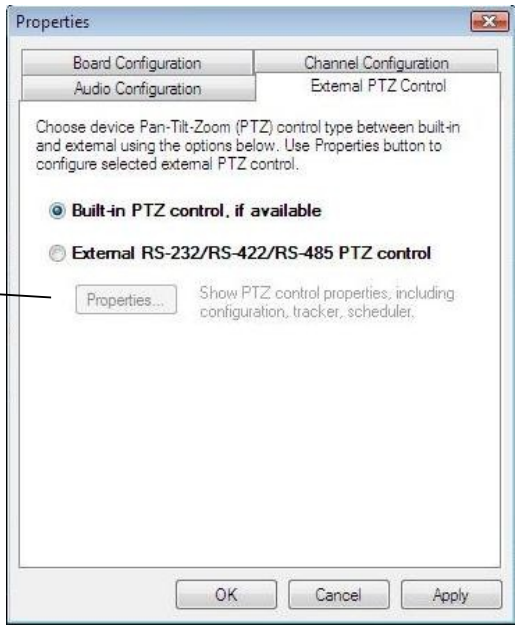
Frame Resolution- for this particular board you can adjust the frame resolution up to 720x480 for every individual camera.

AUDIO Channel- Gives you the option to enable audio for the current video channel.

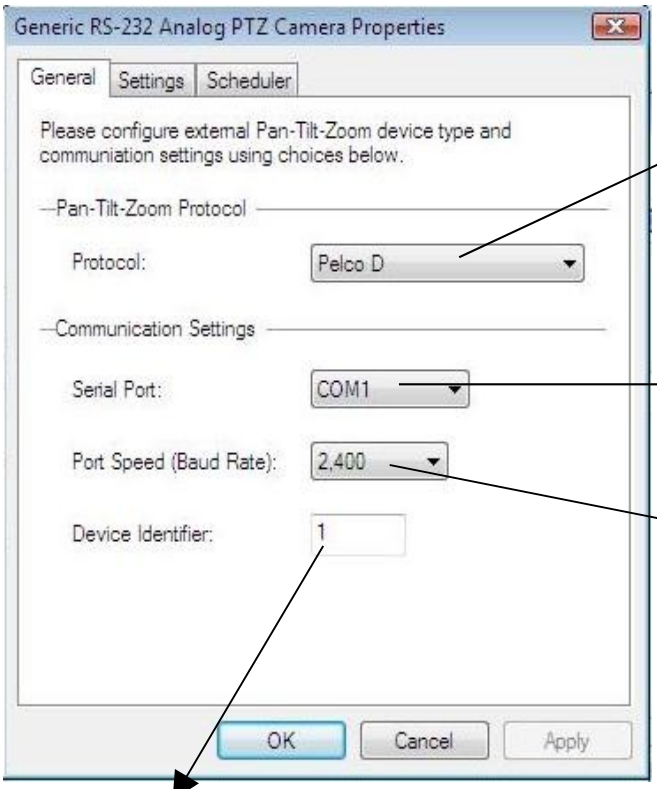


PTZ Camera Properties

PTZ Control: Luxriot can interface RS-232, RS-422 and RS-485. When the RS Control is selected, the Properties button becomes available, for you to set-up your PTZ camera.


Properties
Board Configuration
Channel Configuration
Audio Configuration
External PTZ Control
Choose device Pan-Tilt-Zoom (PTZ) control type between built-in and external using the options below. Use Properties button to configure selected external PTZ control.
Built-in PTZ control, if available
External RS-232/RS-422/RS-485 PTZ control
Properties...
Show PTZ control properties, including configuration, tracker, scheduler.
OK
Cancel
Apply

PTZ Protocols-Communication Settings



Here you Choose the communication protocol supported by the PTZ camera your installing.

Choose which communication Port the RS control is connected to it.

Set the appropriate Baud rate that the camera manufacture recommends for the PTZ your installing.

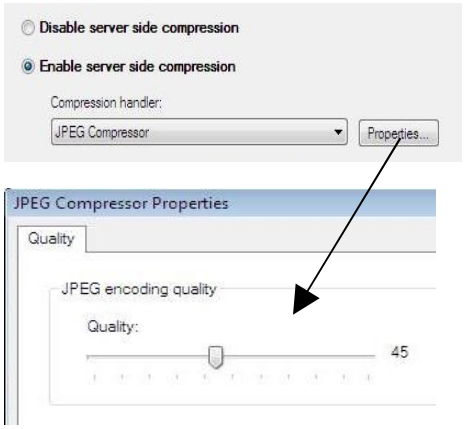
PTZ Cameras often have DIP switches, or configuration software that can be set to different ID's In order to be able to control multiple PTZ cameras on the same RS Controller.

Properties tab ended. Click ok and you will now return to the camera setup wizard.

Click Next

Video Compression

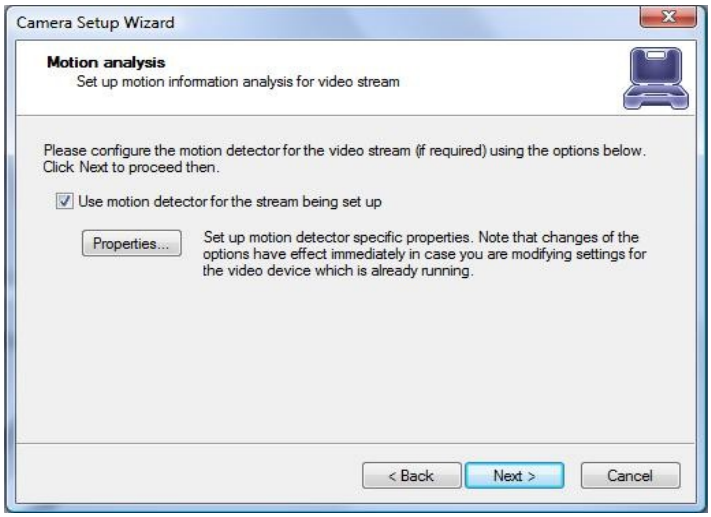
Enable Server Side Compression- Compresses video according to the compression you choose. LuxRiot continuously integrates compressions so feel free to check here every so often.



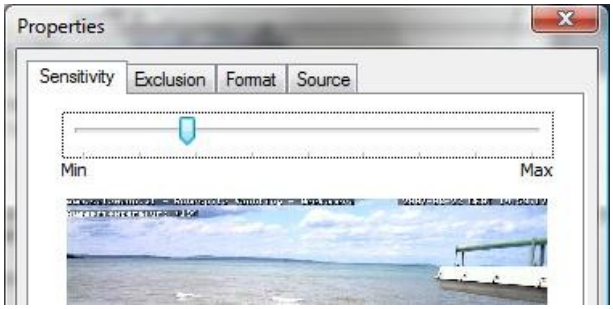
Click Next

5th Screen- "**Motion Analysis**"

Use Motion- This box should be checked if you are interested in using Motion Detection. We recommend you use motion detection for it will save you an abundance of well-needed storage space. Choose Properties

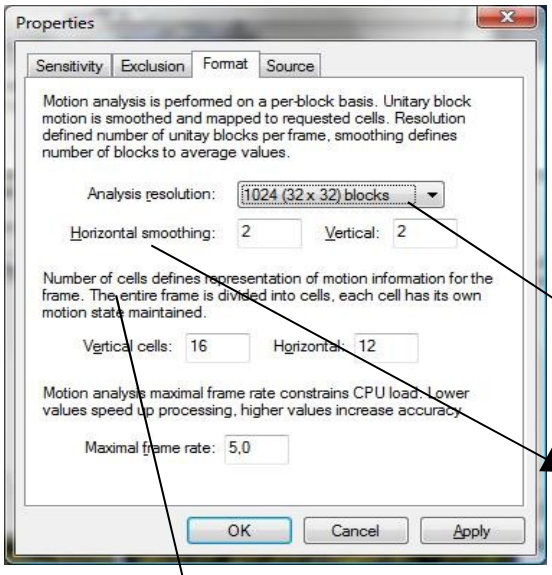

Camera Setup Wizard
Motion analysis
Set up motion information analysis for video stream
Please configure the motion detector for the video stream (if required) using the options below. Click Next to proceed then.
Use motion detector for the stream being set up
Properties...
Set up motion detector specific properties. Note that changes of the options have effect immediately in case you are modifying settings for the video device which is already running.
< Back
Next >
Cancel

Properties- Tab Explanations



Sensitivity Tab-
The sensitivity should be adjusted to a point where motion is only seen by people and not by blinking lights, reflections, or shadows, otherwise you will get "false motion" and LuxRiot will be recording based on motion that does not exist.

Exclusion Tab-
If you are still getting motion from lights, trees or things moving from an air-conditioner or an open door then you can click on exclusion and block the object out from the motion detection grid. You simply click on the grid boxes around the object that you would like to exclude, to remove them from being seen by the motion detection engine in LuxRiot.

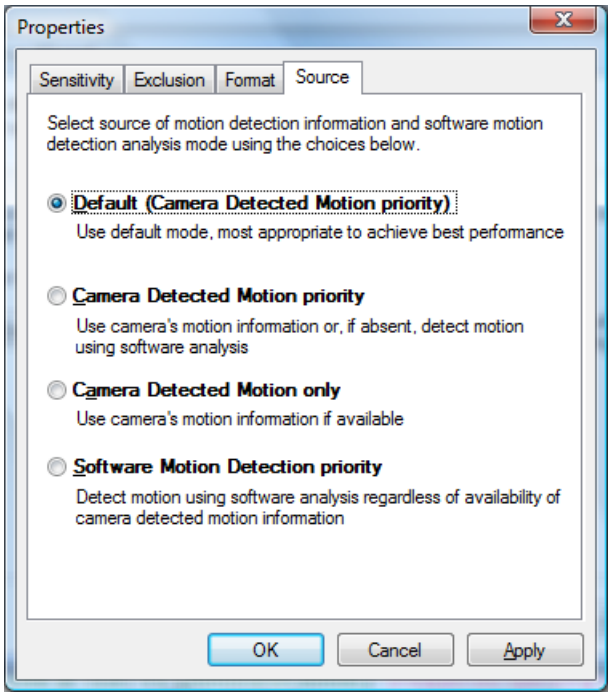

Properties
Sensitivity
Exclusion
Format
Source
Motion analysis is performed on a per-block basis. Unitary block motion is smoothed and mapped to requested cells. Resolution defined number of unitay blocks per frame, smoothing defines number of blocks to average values.
Analysis resolution:
1024 (32 x 32) blocks
Horizontal smoothing:
2
Vertical:
2
Number of cells defines representation of motion information for the frame. The entire frame is divided into cells, each cell has its own motion state maintained.
Vertical cells:
16
Horizontal:
12
Motion analysis maximal frame rate constrains CPU load. Lower values speed up processing, higher values increase accuracy
Maximal frame rate:
5,0
OK
Cancel
Apply

Format Tab- This controls the internal motion detection analysis properties.

Analysis resolution- controls precision of the detection process, the more resolution blocks is selected, the better precision is, and however, the greater CPU consumption is needed.

Smoothing- feature averages preliminary detection result so that neighboring area is included into motion area as well. Smoothing, however, slightly decreases motion detection sensitivity.

Horizontal and vertical cell number- Defines the dimensions of the target grid, which is used as output of the motion detection algorithm. The defined cells are shown. Click ok when finished


Properties
Sensitivity
Exclusion
Format
Source
Select source of motion detection information and software motion detection analysis mode using the choices below.
Default (Camera Detected Motion priority)
Use default mode, most appropriate to achieve best performance
Camera Detected Motion priority
Use camera's motion information or, if absent, detect motion using software analysis
Camera Detected Motion only
Use camera's motion information if available
Software Motion Detection priority
Detect motion using software analysis regardless of availability of camera detected motion information
OK
Cancel
Apply

Default- automatic mode, software decides what is best.

Camera Detected Motion priority- with this option you enable hardware/on-camera detection to software.

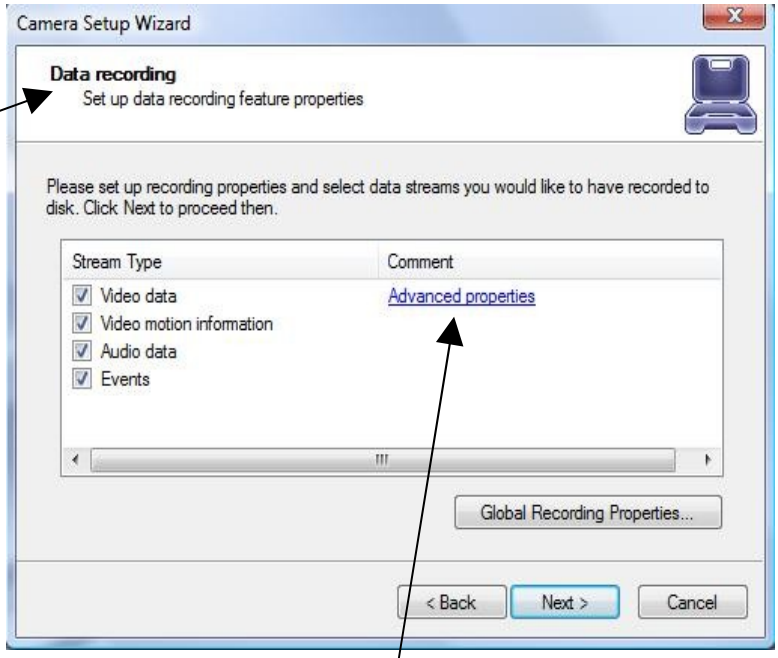
Camera Detected Motion only- instructs to only use hardware detection, wherever available, and never detect via software detection.

Software Motion Detection priority- instructs to use software motion detection only.

Click Next

6th Screen- "**Data Recording**"

Here you can specify whether or not you would like motion information and video recording to be written to the hard drive. It is recommended that you write both to the hard drive, because it will make it much easier to review your recordings with motion information. With out motion being recorded to the hard drive you will not be able to search by general motion or defined motion regions (Smart Search, **see Page 36**).

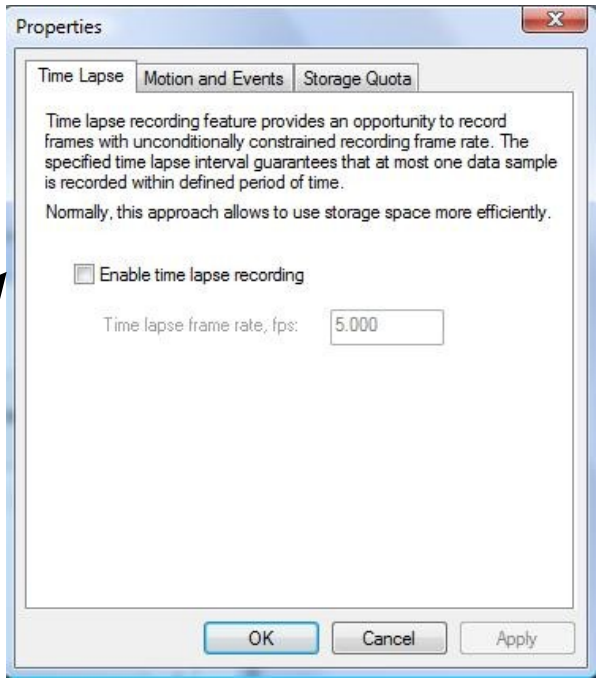


Advanced properties- Allows you to setup **time-lapse** recordings, and Enable **Motion control recording**. Time lapse creates a small delay between every frame that is written to the hard drive, this will use the space you have on your hard drive more efficiently.

Time Lapse Recording:

Time Lapse recording properties can be accessed:
-Right click on your server
-Choose Tasks
-Camera setup Wizard
-Data recording
-Advanced properties

Time Lapse recording: The number of frames to be record camera by camera. It gives you the opportunity to use HD space more efficiently. Less important cameras can be set to record less frames than others. Cannot apply for Mpeg4 and H.264 compressions.


Properties
Time Lapse
Motion and Events
Storage Quota
Time lapse recording feature provides an opportunity to record frames with unconditionally constrained recording frame rate. The specified time lapse interval guarantees that at most one data sample is recorded within defined period of time.
Normally, this approach allows to use storage space more efficiently.
Enable time lapse recording
Time lapse frame rate, fps:
5.000
OK
Cancel
Apply

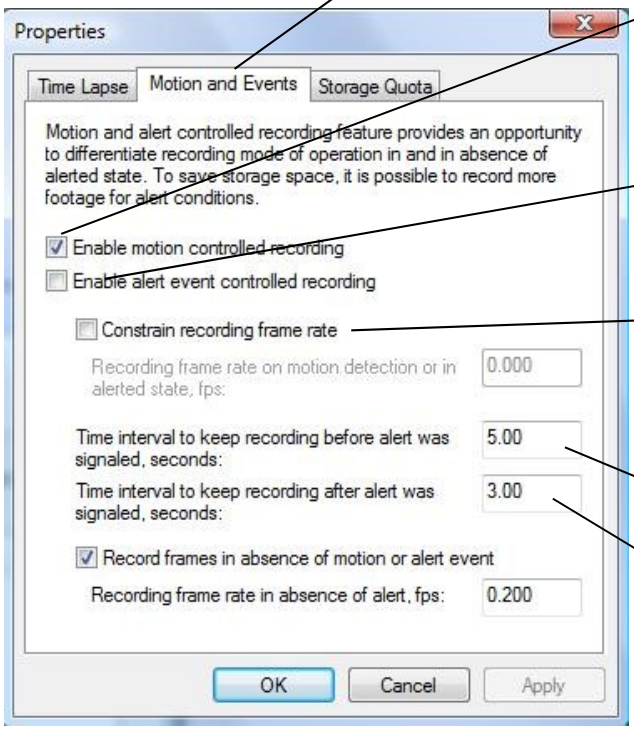
Motion Control Recording:

Motion Control Recording can be accessed:
-Right click on your server
-Choose Tasks

Enable Motion control recording to save disk space and make playback more efficient.

-Camera setup Wizard
-Data recording
-Advanced properties

Enable recording when motion is not detected at selected frame rate. **When Motion** occurs recording frame rate goes to maximum automatically.


Properties
Time Lapse
Motion and Events
Storage Quota
Motion and alert controlled recording feature provides an opportunity to differentiate recording mode of operation in and in absence of alerted state. To save storage space, it is possible to record more footage for alert conditions.
Enable motion controlled recording
Enable alert event controlled recording
Constrain recording frame rate
Recording frame rate on motion detection or in alerted state, fps:
0.000
Time interval to keep recording before alert was signaled, seconds:
5.00
Time interval to keep recording after alert was signaled, seconds:
3.00
Record frames in absence of motion or alert event
Recording frame rate in absence of alert, fps:
0.200
OK
Cancel
Apply

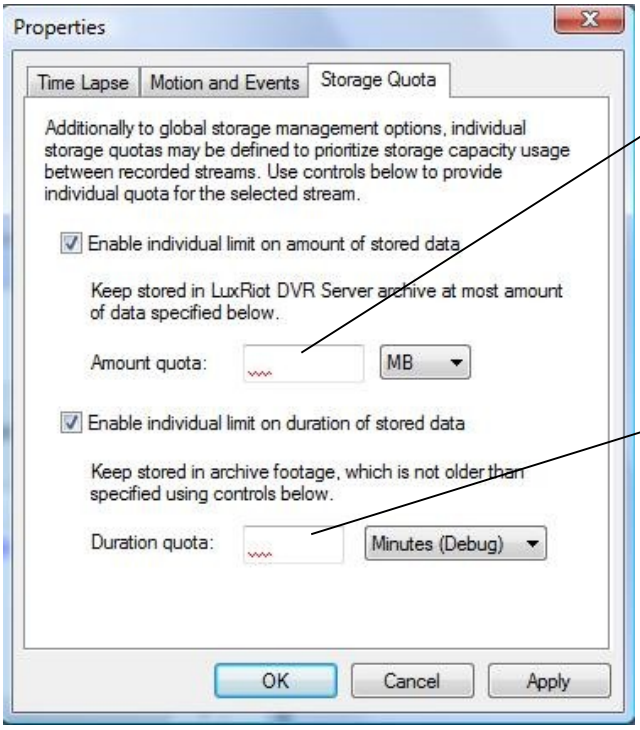
Enable Alert recording Alert is is detected at selected frame rate. **When Alert** occurs recording frame rate goes to maximum automatically.

Constrain the number of frames to be record camera by camera. It gives you the opportunity to use HD space more efficiently. Less important cameras can be set to record less frames than others. Cannot apply for Mpeg4 and H.264 compressions.

Pre-recording allows you to setup the number of seconds you want to have recorded before the last motion.

Post-recording allows you to setup the number of seconds you want to have recorded after the last motion.

Storage Quota


Properties
Time Lapse
Motion and Events
Storage Quota
Additionally to global storage management options, individual storage quotas may be defined to prioritize storage capacity usage between recorded streams. Use controls below to provide individual quota for the selected stream.
Enable individual limit on amount of stored data
Keep stored in LuxRiot DVR Server archive at most amount of data specified below.
Amount quota:
MB
Enable individual limit on duration of stored data
Keep stored in archive footage, which is not older than specified using controls below.
Duration quota:
Minutes (Debug)
OK
Cancel
Apply

Enable Individual limit amount for data for the current camera. Some cameras are more important than others and some are less important. The user can define the limit for every individual camera.

Enable Individual duration limit for the current camera. Can be set to minutes, hours, days or months.

7th Screen- "**Action Summary**"

This page of the camera setup wizard gives you a summary of all of the changes that you have made throughout the wizard. You should set up every camera that you have connected to your DVR one by one and disable the inputs that have nothing connected to them. The camera setup wizard only has to be run the first time that you install LuxRiot to setup all of your inputs or afterwards to make changes to camera names and/or motion detection, recording, etc, properties.

Click Next

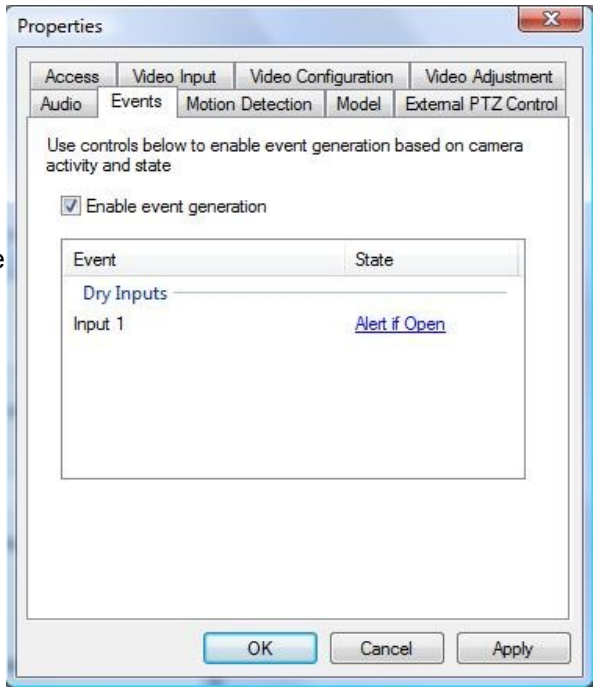
8th Screen- "**Wizard Complete**"

Congratulations, you have now setup your camera.

Click Finish

End of Camera Configuration

Digital Input configurations and Events.



To activate the dry contacts (digital or dry inputs) on the camera you need run Camera Setup Wizard, open the camera settings and select the tab Events. Next, you need to include the generation of events (Enable event generation), also select the State in which the alert generated by the event - this can be done by clicking the mouse on the link in the column State. After changing the settings you have to continue the Camera Setup Wizard to finish.
Currently supported Ip cameras for DIO are: as for 07/15/2010
Axis, SANYO, KTC, JVC, Dynacolor H.264 series, Hitron MP H.264 series, Etrovision H.264.

Available state:

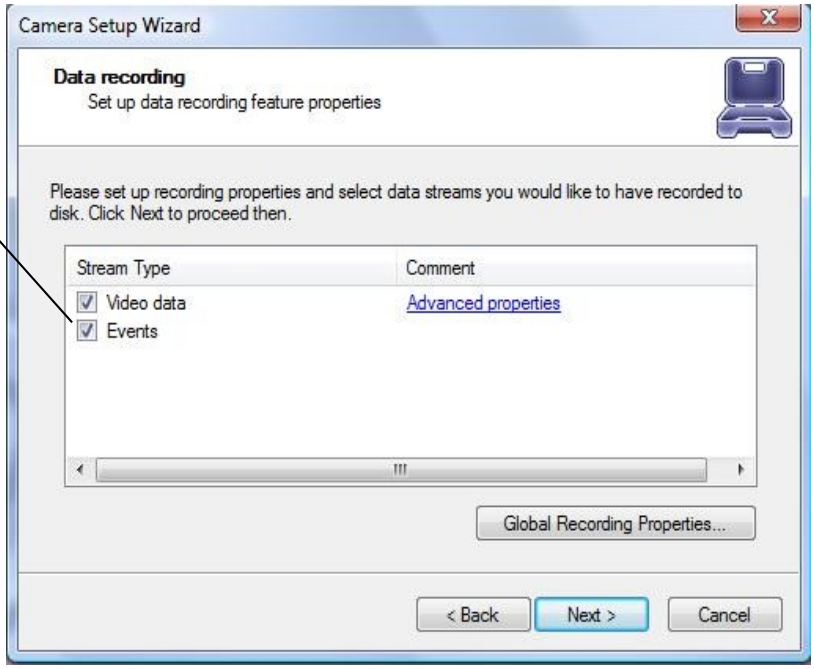
Active - by changing the status of the contact, it is recorded in the archive;

Alert if Change - Same as Active, but by changing the state of contact is generated alert;

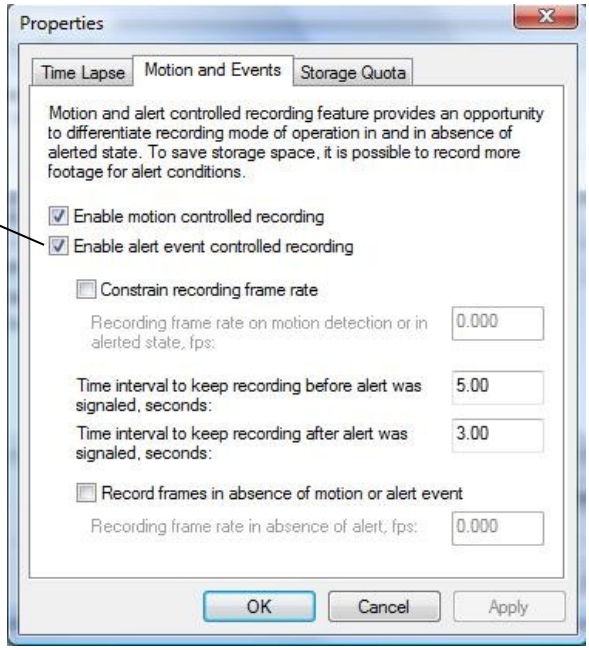
Alert if Open - the same as Active, but when closing the contact generated alert;

Alert if Close - same as Active, but the closure of the contact is generated alert.

Recording
For the recording of events, select the corresponding check-box on the page, Data recording, in the Camera Setup Wizard.

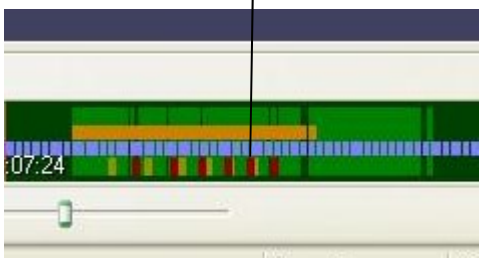

Camera Setup Wizard
Data recording
Set up data recording feature properties
Please set up recording properties and select data streams you would like to have recorded to disk. Click Next to proceed then.
Stream Type
Comment
Video data
Advanced properties
Events
Global Recording Properties...
< Back
Next >
Cancel

You can also set up to activate record video after an alarm event. To do this, go to additional settings for recording (Advanced properties page Data recording),select bookmark Motion and Events, and include an entry on warnings - Enable alert event controlled recording.


Properties
Time Lapse
Motion and Events
Storage Quota
Motion and alert controlled recording feature provides an opportunity to differentiate recording mode of operation in and in absence of alerted state. To save storage space, it is possible to record more footage for alert conditions.
Enable motion controlled recording
Enable alert event controlled recording
Constrain recording frame rate
Recording frame rate on motion detection or in alerted state, fps:
0.000
Time interval to keep recording before alert was signaled, seconds:
5.00
Time interval to keep recording after alert was signaled, seconds:
3.00
Record frames in absence of motion or alert event
Recording frame rate in absence of alert, fps:
0.000
OK
Cancel
Apply

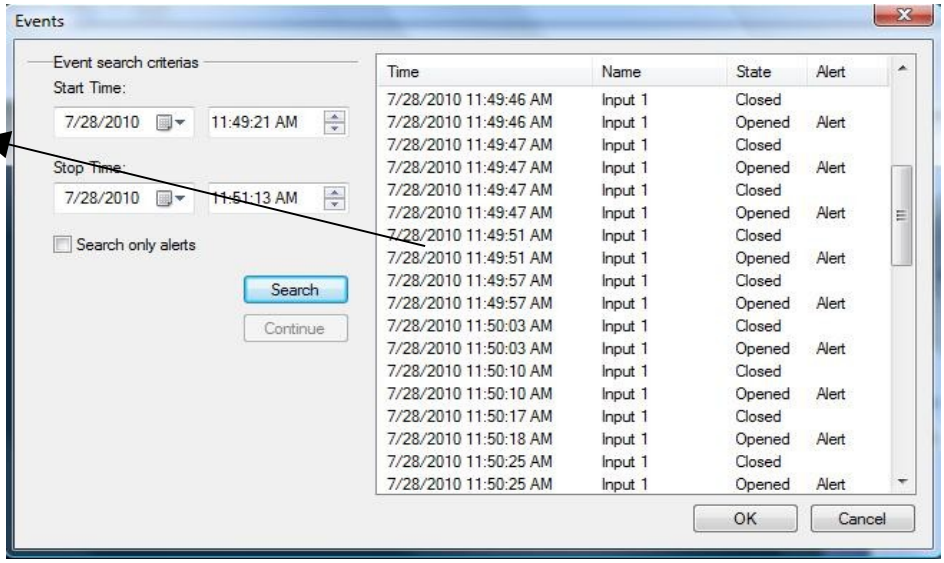
Archive:

At the Time Line bar, events are displayed in the lower part, and are marked with yellow or red (alarm events) Labeled.



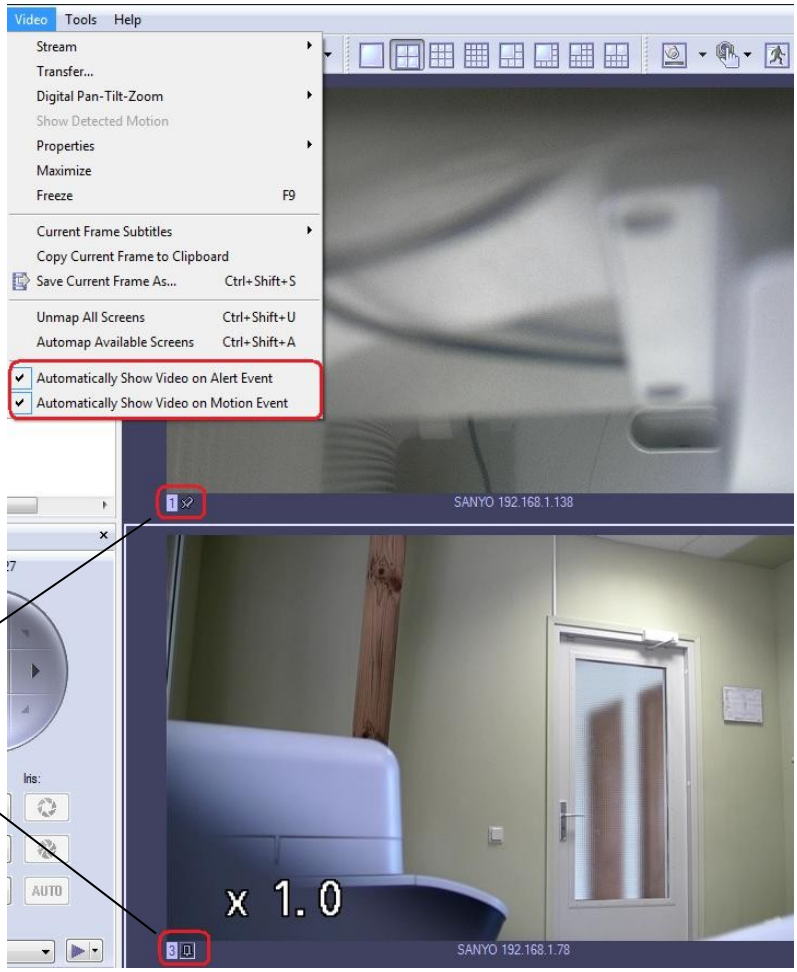
Search for events:

To search for events, choose Navigation -> Events in the main menu player archive. In the window to specify search criteria and click Search. Double click on the event of interest to establish the position of the archive at the time of the event.


Events
Event search criterias
Start Time:
7/28/2010
11:49:21 AM
Stop Time:
7/28/2010
11:51:13 AM
Search only alerts
Search
Continue
Time
Name
State
Alert
7/28/2010 11:49:46 AM Input 1 Closed
7/28/2010 11:49:46 AM Input 1 Opened Alert
7/28/2010 11:49:47 AM Input 1 Closed
7/28/2010 11:49:47 AM Input 1 Opened Alert
7/28/2010 11:49:47 AM Input 1 Closed
7/28/2010 11:49:47 AM Input 1 Opened Alert
7/28/2010 11:49:51 AM Input 1 Closed
7/28/2010 11:49:51 AM Input 1 Opened Alert
7/28/2010 11:49:57 AM Input 1 Closed
7/28/2010 11:49:57 AM Input 1 Opened Alert
7/28/2010 11:50:03 AM Input 1 Closed
7/28/2010 11:50:03 AM Input 1 Opened Alert
7/28/2010 11:50:10 AM Input 1 Closed
7/28/2010 11:50:10 AM Input 1 Opened Alert
7/28/2010 11:50:17 AM Input 1 Closed
7/28/2010 11:50:18 AM Input 1 Opened Alert
7/28/2010 11:50:25 AM Input 1 Closed
7/28/2010 11:50:25 AM Input 1 Opened Alert
OK
Cancel

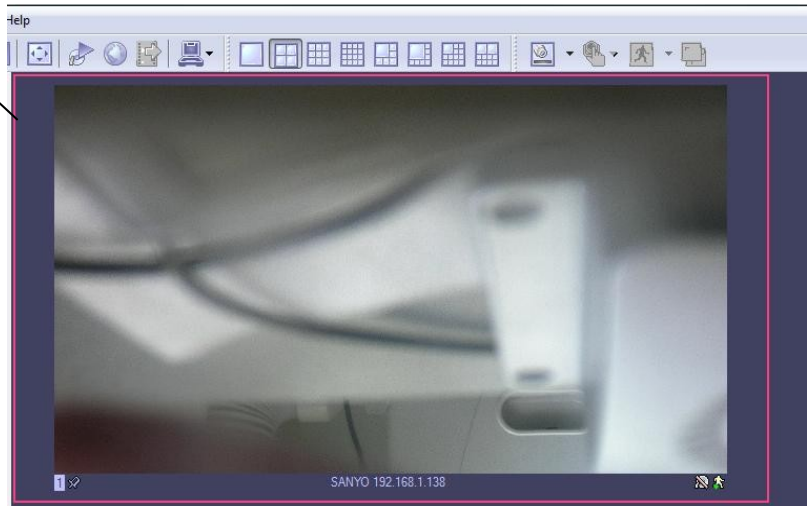
Live view pop up by motion and events

Cameras will be placed on a client screen as soon as Motion/Event triggered on the camera



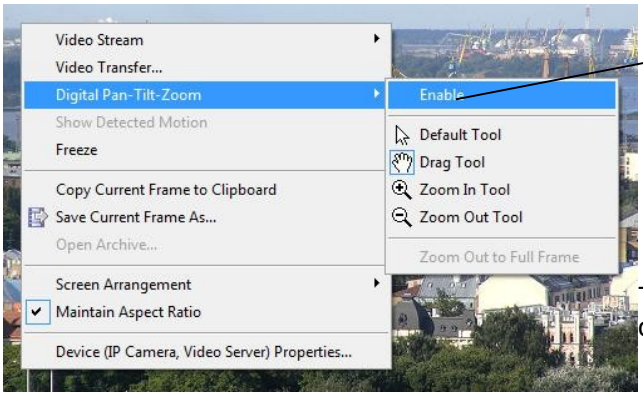
Each camera has the option in a footer "lock" and "unlock". When a camera is unlocked it will be changed on the screen if you have enabled Pop up features. If a camera is locked then it will always stay on the screen.

On an event, camera placed on the screen by pop up will be marked in red blinking frame.



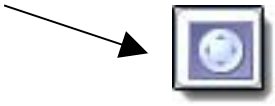
Chapter 5

Digital PAN-Tilt-Zoom on live view



Right-Click on any camera to Activate the Digital Pan-Tilt and zoom function.

Then by activating the PTZ control pane live streaming video can be digitally enhance.



Digital PAN-Tilt-Zoom Tools

- **Default Tool** – default mouse behaviour, it will click and drag as no digital PTZ was enabled. Digital PTZ control still be accessible via PTZ control pane.
- **Drag Tool** – when selected mouse can drag digitally zoomed image around screen changing your viewpoint. Additionally mouse wheel will works as zoom in/zoom out.
- **Zoom In(Out) Tool** – digital zoom out (in) on mouse left button click.
- **Zoom Out to Full Frame** – zoom level automatically reverts to 0, image will fit on screen completely.

Digital PAN-Tilt-Zoom on Playback

To Activate the Digital Pan-Tilt and zoom function on already recorded video just activating the PTZ control pane from the archive window. It can be controlled only via PTZ control pane.

End of digital pan-tilt-zoom

PTZ Control Pane for Optical

Click on the this Icon on the main toolbar to get the PTZ control pane

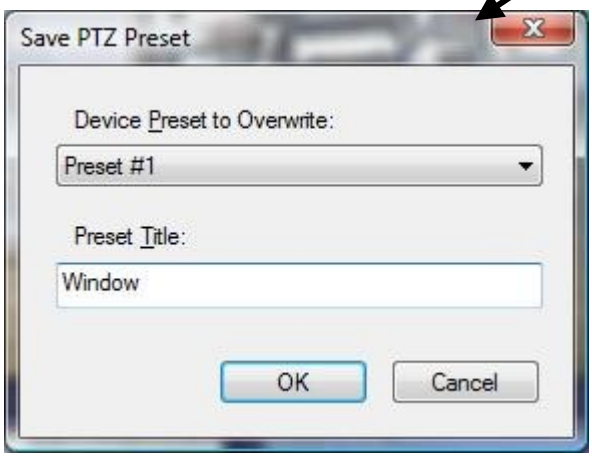
Zoom IN

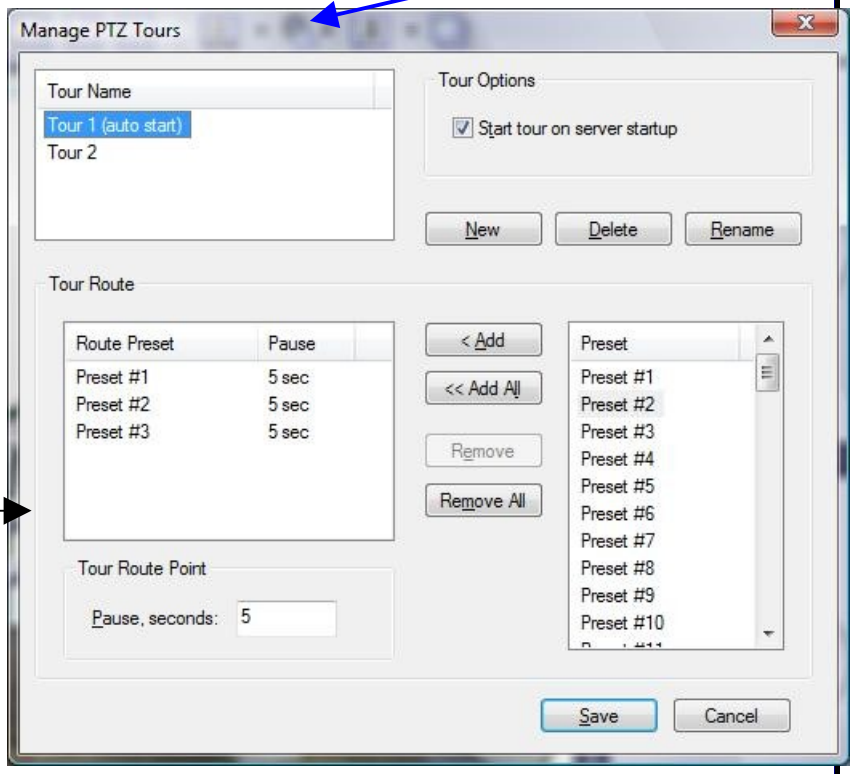
Zoom OUT

Manual and Auto Adjustments for Focus and Iris

Save Presets and Tours for PTZ Cameras

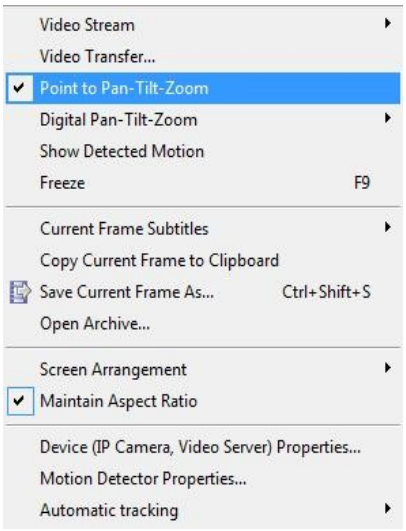
Presets and Tours can be configured from the PTZ control window.





Manage PTZ tours camera by camera by selecting the presets of your choice and time between them.

PTZ control - Point to click PTZ



Point to click works on PTZ cameras that support point to click.
To enable the Point to Pan-Tilt-Zoom just right-click the live video and enable.

PTZ control - shortcut keys

PTZ cameras can be controlled with the +- and arrow keys form pc keyboard.

PTZ Keyboard controller

LuxRiot supports USB PTZ keyboard controllers:

DCZ is universal keyboard for managing applications on the PC. The DCZ keyboard comes with jog shuttle, joystick 38 backlit keys, alarm buzzer, and allows the management of LuxRiot application via USB connection.

The LuxRiot receives an event message whenever a key is pressed or released.

The DCZ keyboard can work with LuxRiot emulating a 4-axis 32 keys HID joystick or as full featured CCTV managment keyboard. It can also be used together with ordinary PC peripheral devices such as keyboards, mouse, joysticks or other accessories.

This simple and user-friendly DCZ keyboard allows a comfortable and intuitive management of LuxRiot application from PC.

LuxRiot USB Joystick
- LuxRiot and all Microsoft Windows USB compatible
- Server/Client side controlling from remote and local clients
- Control IP and Analog PTZ's
- 10 programmable preset buttons
- Zoom on Joystick. Twist left or right to zoom in and out

End of save presets and tours for PTZ cameras

Video Adjustments

Toggle Video Amplification Pane

Video adjustment can adjust every individual camera with its own settings.

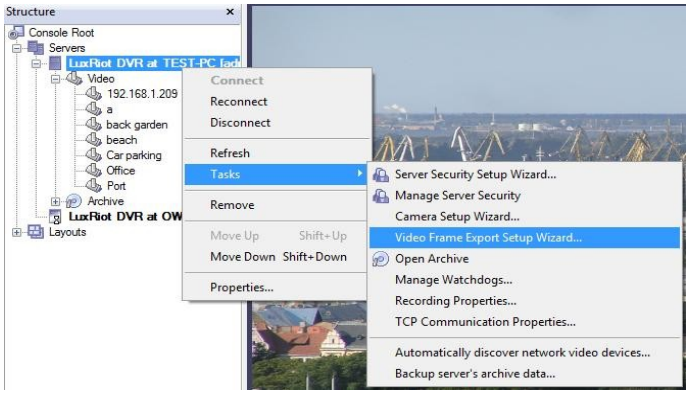
Toggle Video Amplification Pane

From Audio Panel you can enable live audio from the camera of your choice

End of video/ audio adjustments

Video Frame Export

Video Frame Export Setup Wizard allows you to configure continuous saving of video frames on network, fixed storage or FTP. Frame export can be configured for multiple devices. Also you can use fps limit (time lapse) and motion controlled export. Exported frames will be saved in JPEG format using file name format you specify when configure export until disabled.



To run this wizard you should:
- Right click on server in structure tab or select menu item Server->Selected Server
- Choose Tasks
- Click on “Video Frame Export Setup Wizard”

1st Screen- “**Welcome to the Video Frame Export Setup Wizard**”

Click next

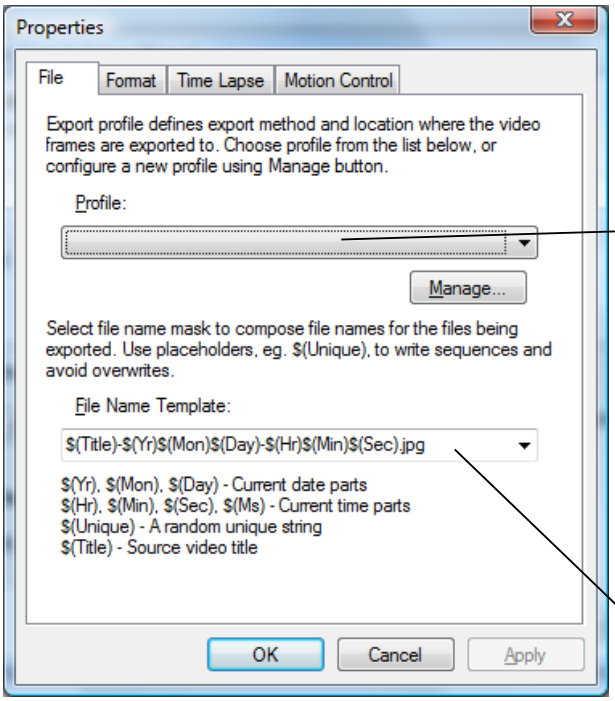
2nd Screen- “**Video Streams**”

Select one or more devices from the list for frame export configuration.

Click next

3rd Screen- “**Export properties**”

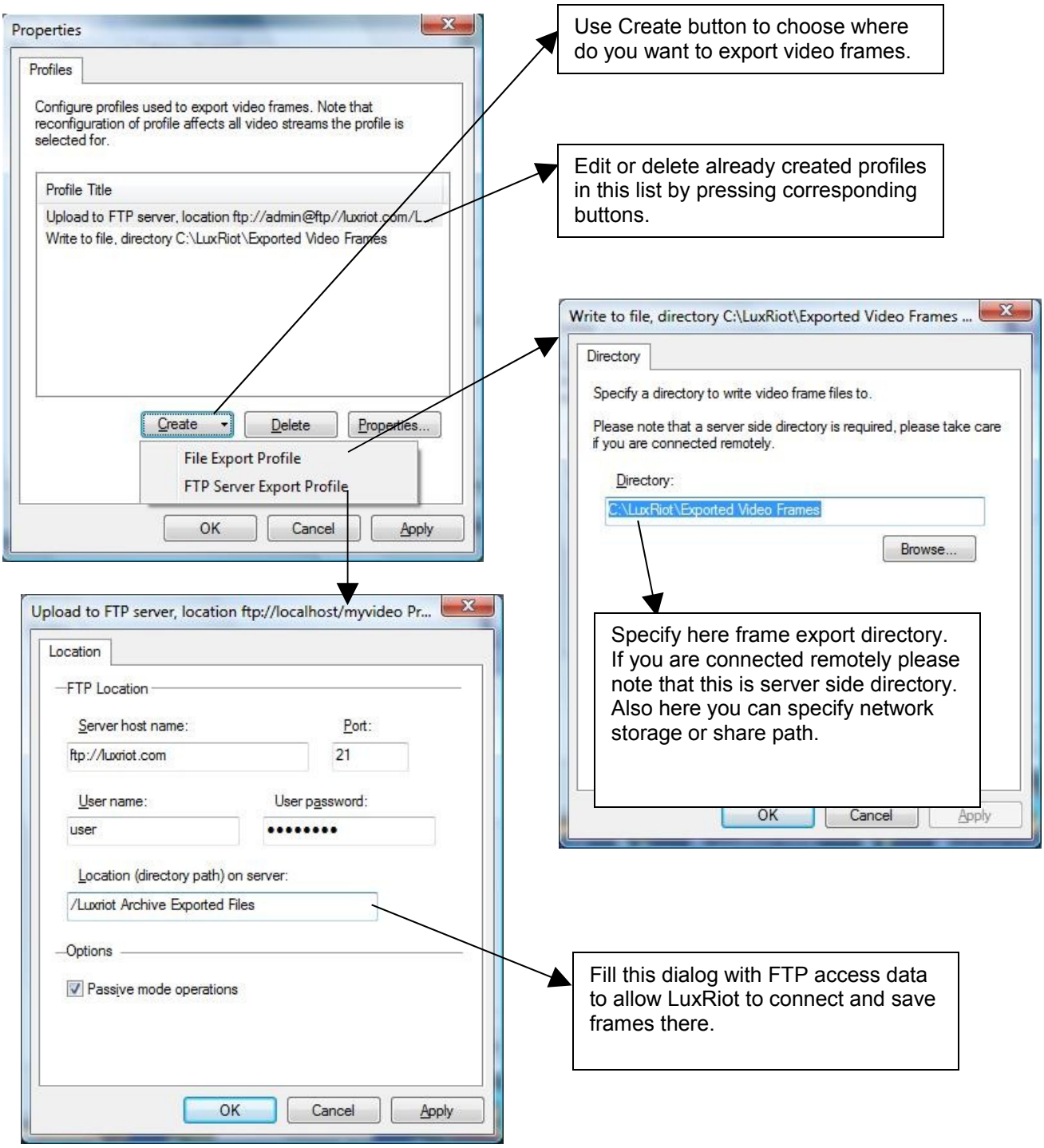
You can enable or disable video frame export in this screen. If you want to enable export, press properties button to configure it.


Properties
File
Format
Time Lapse
Motion Control
Export profile defines export method and location where the video frames are exported to. Choose profile from the list below, or configure a new profile using Manage button.
Profile:
Manage...
Select file name mask to compose file names for the files being exported. Use placeholders, eg. $(Unique), to write sequences and avoid overwrites.
File Name Template:
$(Title)-$(Yr)(Mon)(Day)-(Hr)(Min)$(Sec).jpg
$(Yr), $(Mon), $(Day) - Current date parts
$(Hr), $(Min), $(Sec), $(Ms) - Current time parts
$(Unique) - A random unique string
$(Title) - Source video title
OK
Cancel
Apply

Select already created profile or create at least one to start using video frame export. There are two types of profiles: **file export** profile and **FTP export** profile. Use manage button to create edit or delete those profiles.

Each frame will be saved into file, this template string will be used for formatting filename. Please make sure that it will be unique by adding it's time in ms or random unique string ($(Ms) or $(Unique) format tags)

Managing video frame export profiles


Properties
Profiles
Configure profiles used to export video frames. Note that reconfiguration of profile affects all video streams the profile is selected for.
Profile Title
Upload to FTP server, location ftp://admin@ftp//luxriot.com/L...
Write to file, directory C:\LuxRiot\Exported Video Frames
Create
Delete
Properties...
File Export Profile
FTP Server Export Profile
OK
Cancel
Apply
Use Create button to choose where do you want to export video frames.
Edit or delete already created profiles in this list by pressing corresponding buttons.
Write to file, directory C:\LuxRiot\Exported Video Frames ...
Directory
Specify a directory to write video frame files to.
Please note that a server side directory is required, please take care if you are connected remotely.
Directory:
C:\LuxRiot\Exported Video Frames
Browse...
OK
Cancel
Apply
Specify here frame export directory. If you are connected remotely please note that this is server side directory. Also here you can specify network storage or share path.
Upload to FTP server, location ftp://localhost/myvideo Pr...
Location
FTP Location
Server host name:
Port:
ftp://luxriot.com
21
User name:
User password:
user
Location (directory path) on server:
/Luxriot Archive Exported Files
Options
Passive mode operations
OK
Cancel
Apply
Fill this dialog with FTP access data to allow LuxRiot to connect and save frames there.

Click next

7th Screen- "**Action Summary**"

This page of the Video Frame Export Setup Wizard gives you a summary of all of the changes that you have made throughout the wizard.

Click Next

8th Screen- "**Wizard Complete**"

Congratulations, you have now setup export of frames for your camera(s).

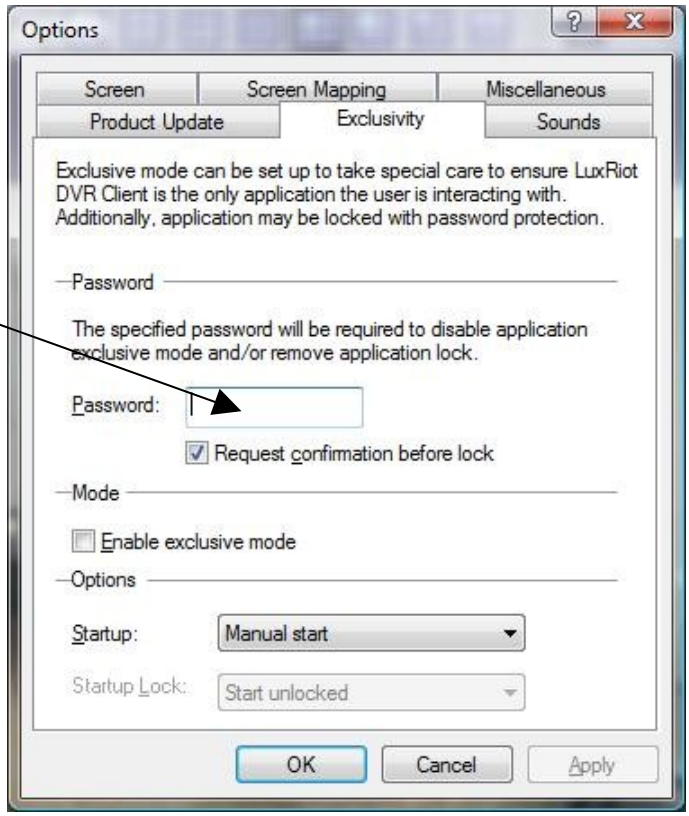
Click Finish

End of video frame export

Exclusivity Mode (Windows lock out feature)

Exclusivity Mode is to make sure that operator cannot get access to Windows operating system. On the other hand they can have access to Luxriot software only. This is to ensure uninterrupted server operation and stability eliminating the human error.

Exclusivity is a password protected function.



Lock Application:

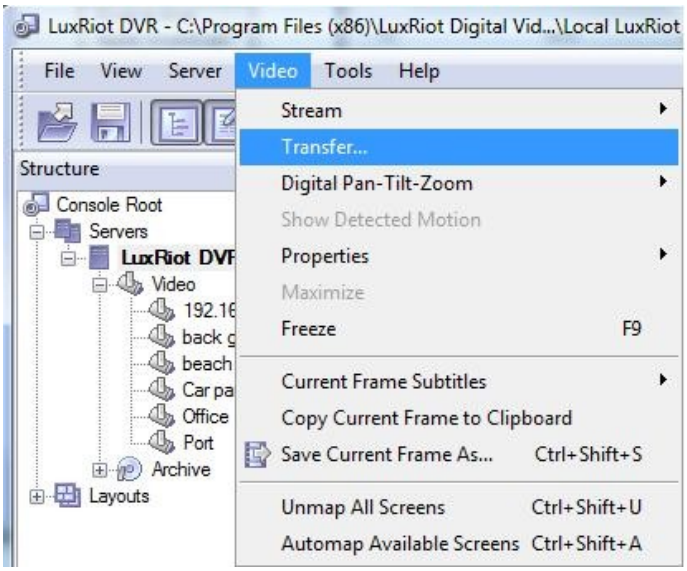
Additionally LuxRiot Client can be locked to ensure that no one could damage server settings while administrator is away. Exclusivity mode password will be used to unlock application.

You can combine Exclusivity Mode and Lock Application features in order to exclusively control LuxRiot Client application and restrict access to other applications.

End of exclusivity mode

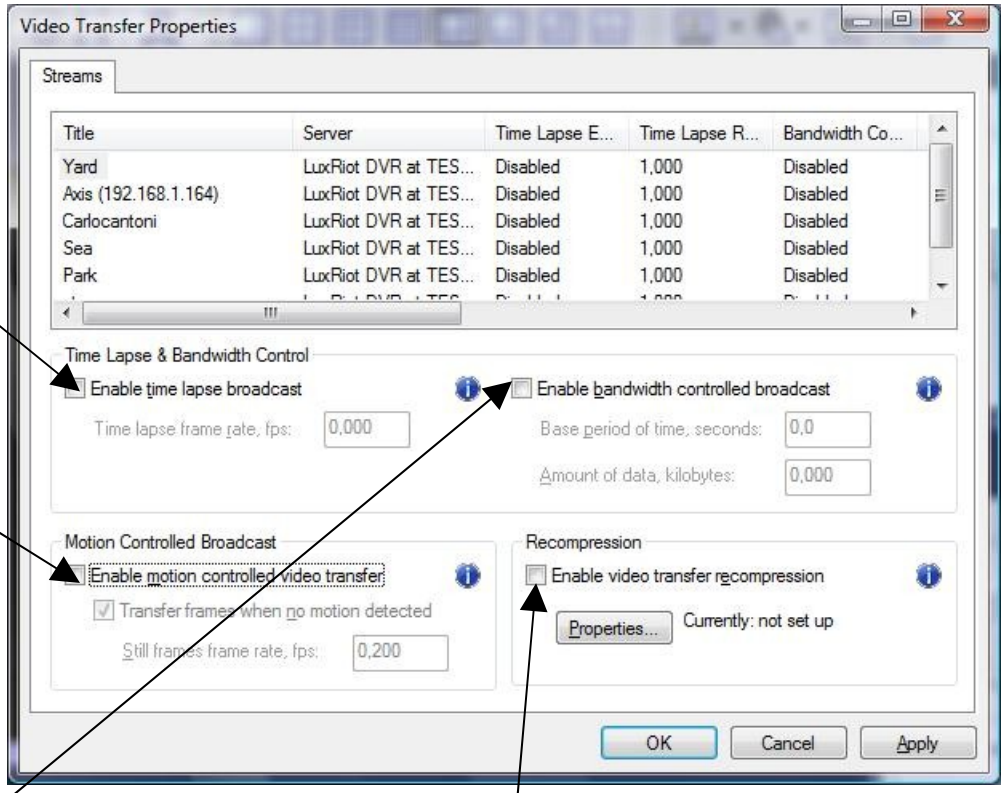
Enable Video Transfer Properties

Video Transfer feature is made for network traffic reduction between DVR Server and DVR Client (if remotely connected) and/or CPU load decreasion on the Client side. Video Transfer reduces amounts of data transferred from server to client by skipping some frames, transferring only motion detected frames, re-compressing or downsampling them without reducing recorded data quantity and quality. This feature is useful in slow remote connection or highly loaded network when viewing cameras remotely. Also it will be effective to decrease image resolution or transfer fps on the low-end systems, where DVR Client is used for viewing large amount of cameras. This approach reduces resolution and amount of frames, waiting to be rendered on the screens.



Enable time lapse broadcast on your remote connection only if needed.

Enable this feature remotely if want to see video on motion only. This is very helpful because frame rate is distributed to the cameras that have motion only.



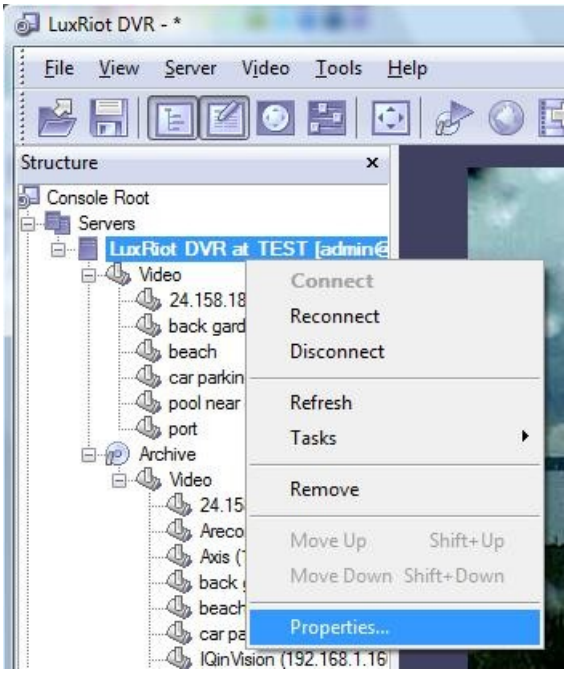
Adjust data controlled broadcast if needed.

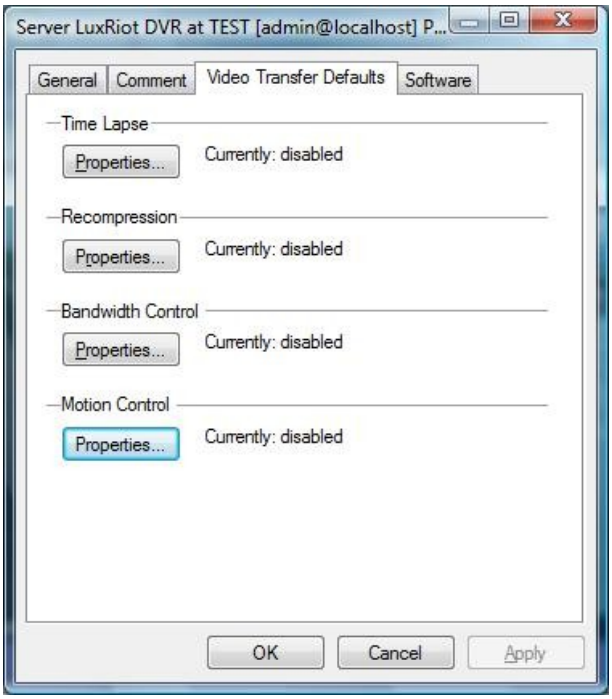
Enable Video transfer re-compression, can be very useful for **remote connections only.** The LuxRiot server can record up 3 mega pixel images, but remotely using this feature a user can receive more frame rate with less image quality without changing the server properties.

Video Transfer Defaults

You can specify default values of the video transfer for newly added devices. All options are identical to the Video Transfer properties.

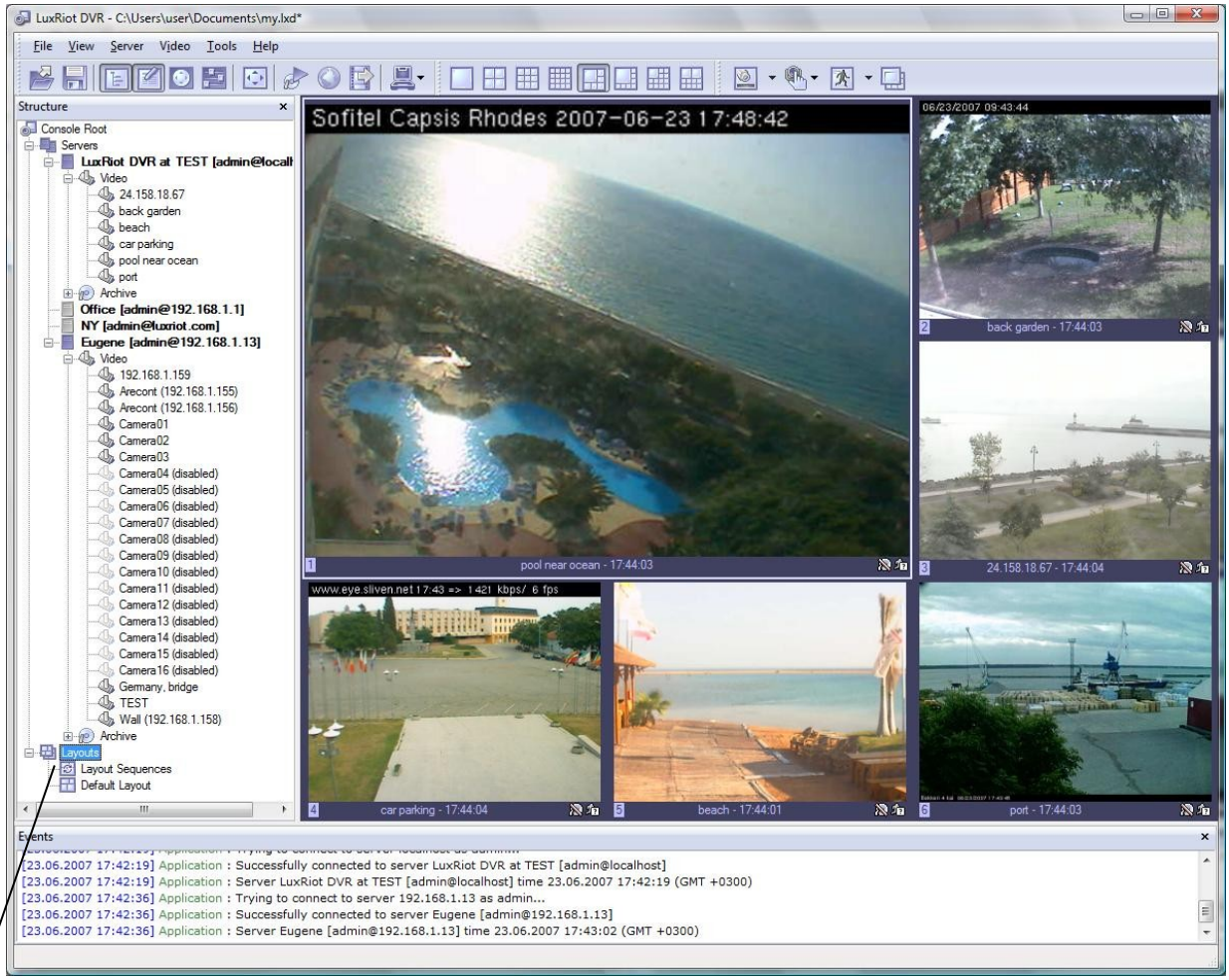
Those defaults can be accessed by clicking on server and choosing menu item Properties.



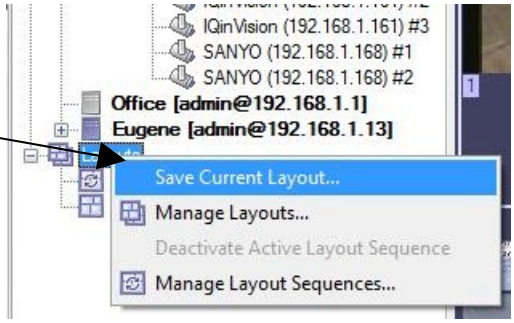


End of video transfer

Layouts



Create custom Layouts by grouping cameras from different DVR Servers/Locations into groups for more efficient monitoring, and better management.
For example group together all out-door cameras from different location or all POS cameras from all registers.



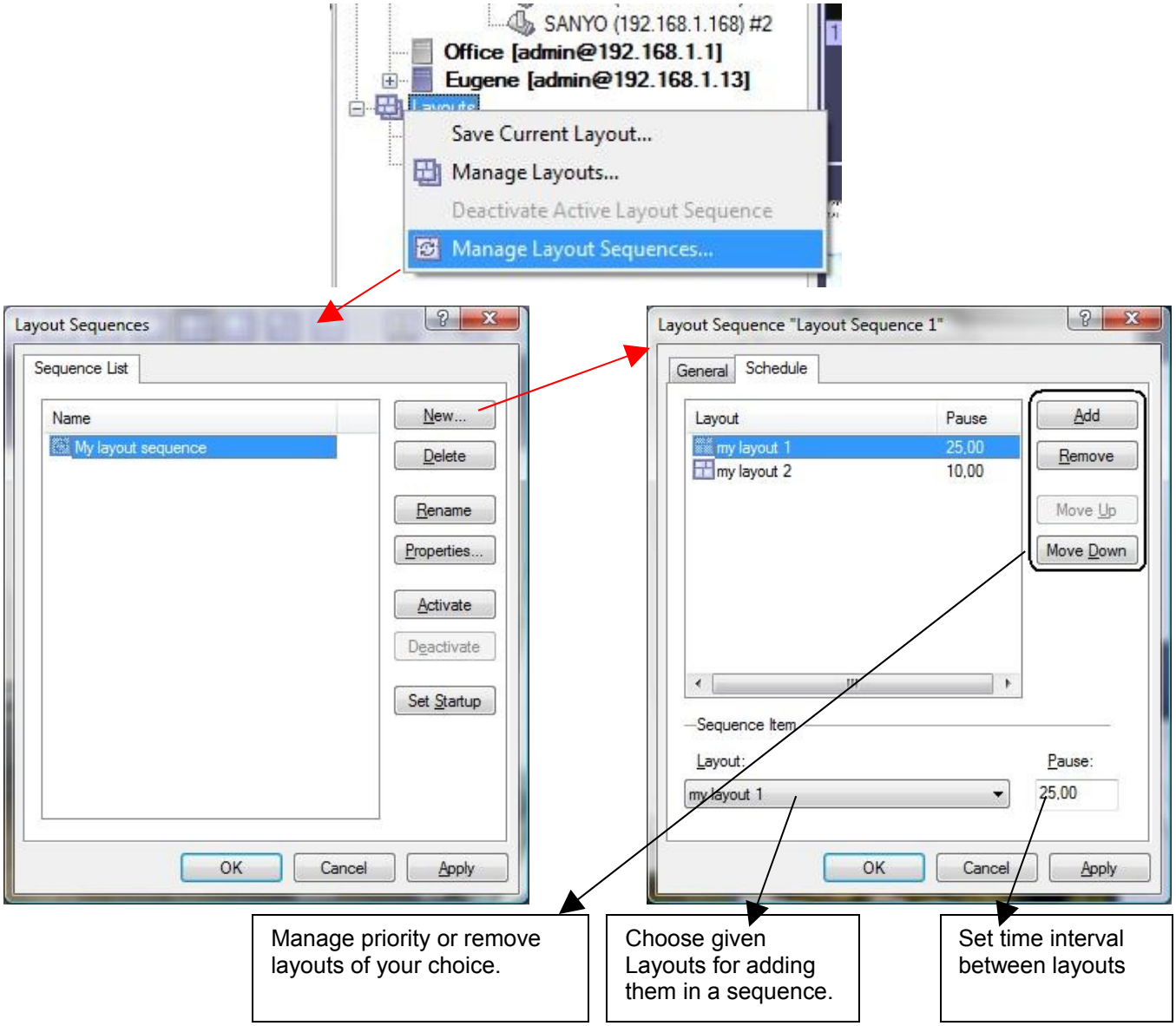
Individual Layouts can be activated by double-click on them with the mouse.

Users now can perform playback and other function by Right-click on the camera of their interest.

Note that empty screens by default are filled with available cameras. You can disable this feature by selecting Tools->Options and choosing Screen mapping tab on appeared dialog, Set Automatic mapping mode to "disabled".

Layout Sequences

When Layouts are created, they can be used for Sequencing.
To create Sequences Right mouse click on Layout Sequences.



Manage priority or remove layouts of your choice.

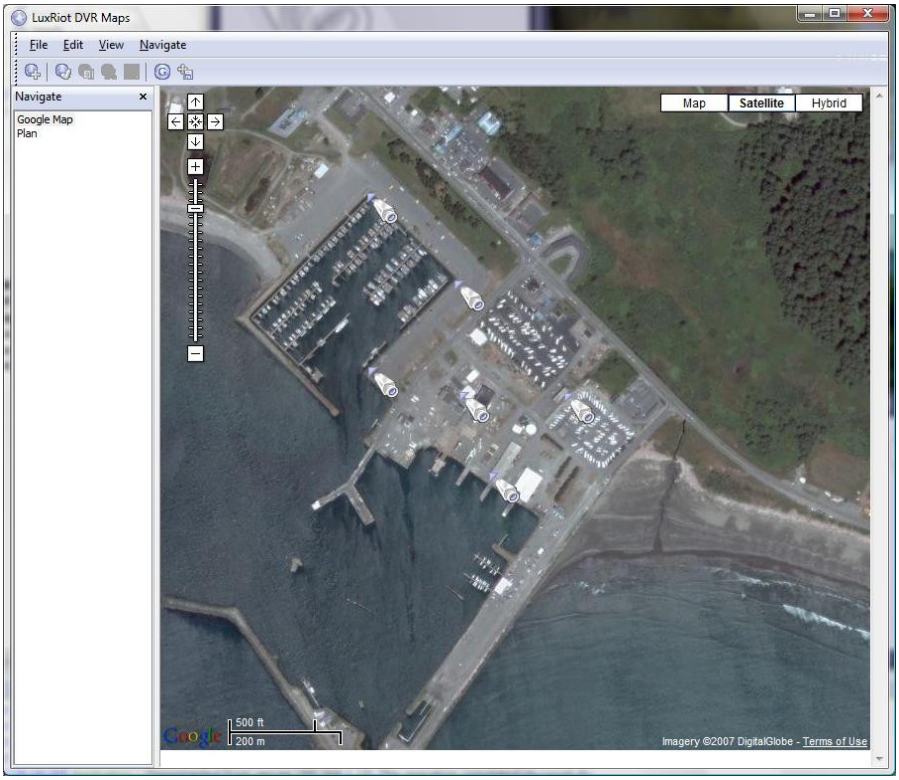
Choose given Layouts for adding them in a sequence.

Set time interval between layouts

End of layouts

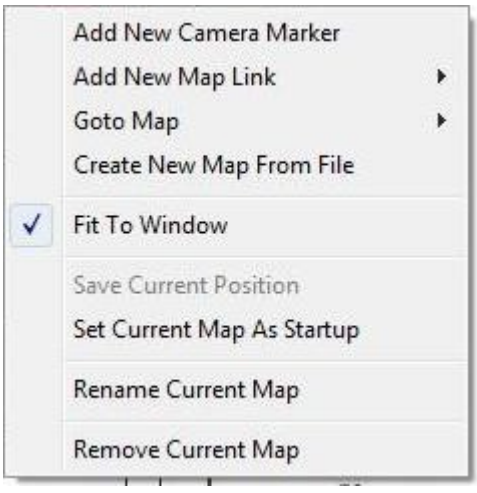
Map module

DVRMap allows you to quickly and conveniently locate cameras for viewing placed on Google Map and/or on your own floor plans added in JPEG format.



To start this module use this toolbar button:

Right click the map and use context menu commands to configure and control map features.



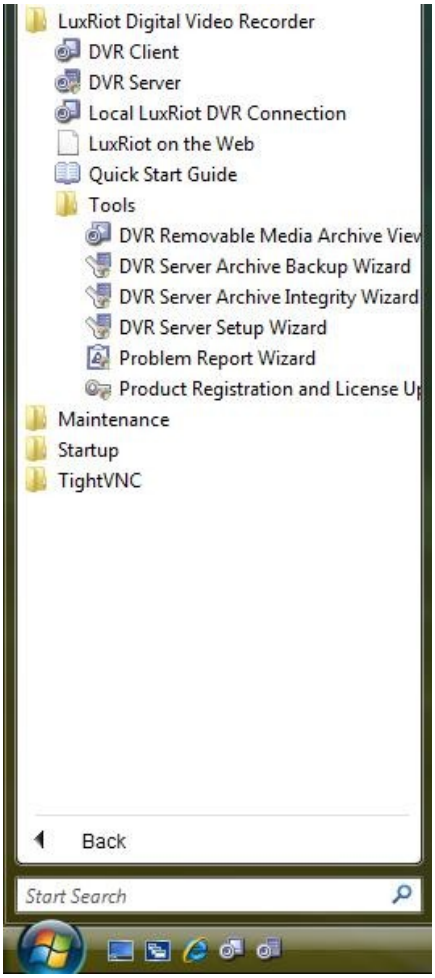
- **Add New Camera Marker** – this item will add camera marker in place where menu has been called. There will be shown list of servers and cameras after choosing this menu item. After adding new marker you can double click on marker to activate matching camera. To remove marker right click on it and choose according popup menu item.
- **Add New Map Link** – inserts on current map link on the new or already created map. Double click will change current map on the linked map. To remove this link use right click on it and choose according menu item.
- **Goto Map** – navigate to other maps in appeared list.
- **Create New Map From File** – add new map from JPEG image file, which will be used as background.
- **Fit To Window** – JPEG map will strain on window maintaining it's aspect ratio.
- **Save Current Position** – used in Google map to saving it's current position.
- **Set Current Map As Startup** – set current map as startup map. Selected map will be loaded when starting to view this map module.
- **Rename Current Map** – rename currently selected map.
- **Remove Current Map** – delete currently selected map.

End of map module

Archive Backup Wizard

Archive Backup Wizard purpose is to backup specific part of archive or burn CD/DVD with archive and Archive Viewer on it. This can be useful to create backup copies of your archive with lower fps, or writing specific part of the archive on the CD for other machines without LuxRiot being installed on them. Please note that this wizard works only on the same machine where DVR Server is installed.

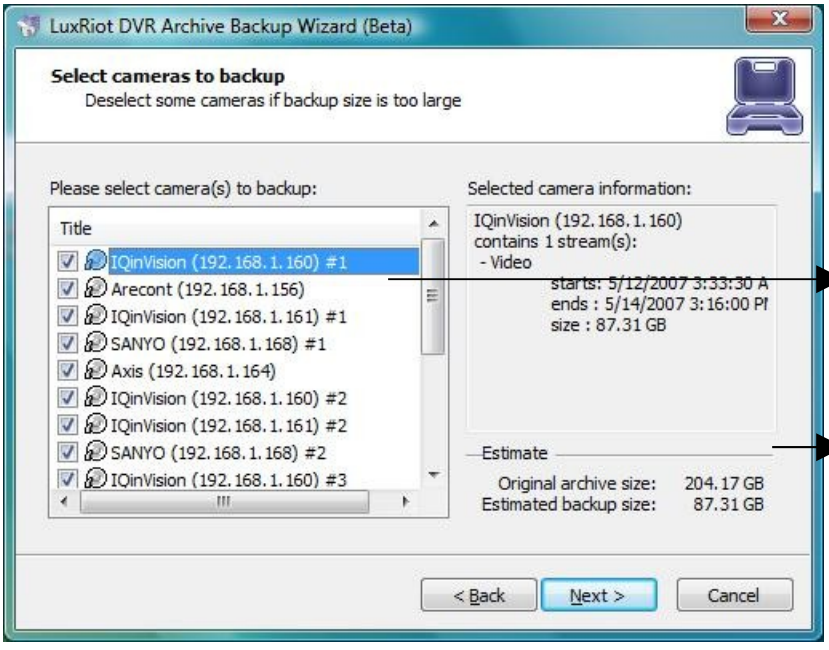
This wizard is located in Start Menu, your LuxRiot DVR menu folder, “tools” subfolder.



1st Screen- “**Introduction to the Archive Backup Wizard**”

Click next

2nd Screen- “**Select Cameras to Backup**” Select one or more cameras from the list.



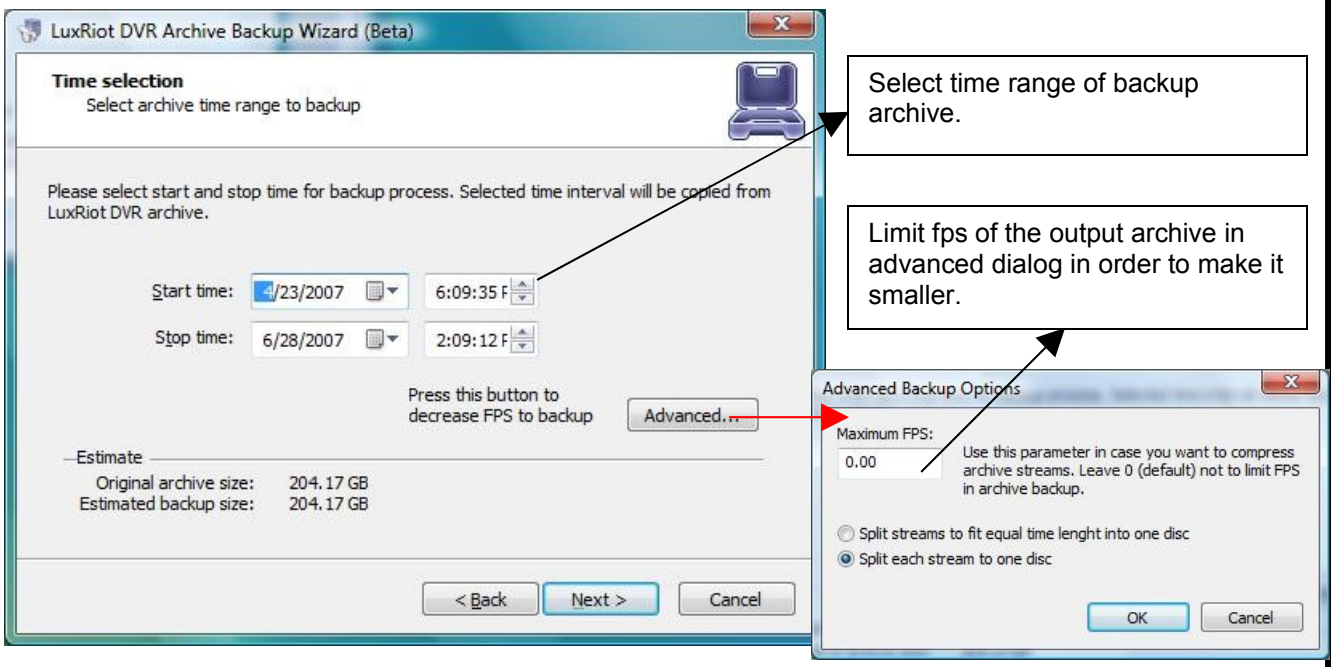
Choose cameras to backup.

There are estimates of backup size on every page in this wizard. Note that you can always decrease estimate size by decreasing output fps of backup archive, deselecting some of the cameras or changing time range.

Click next

3rd Screen- "**Time Selection**"

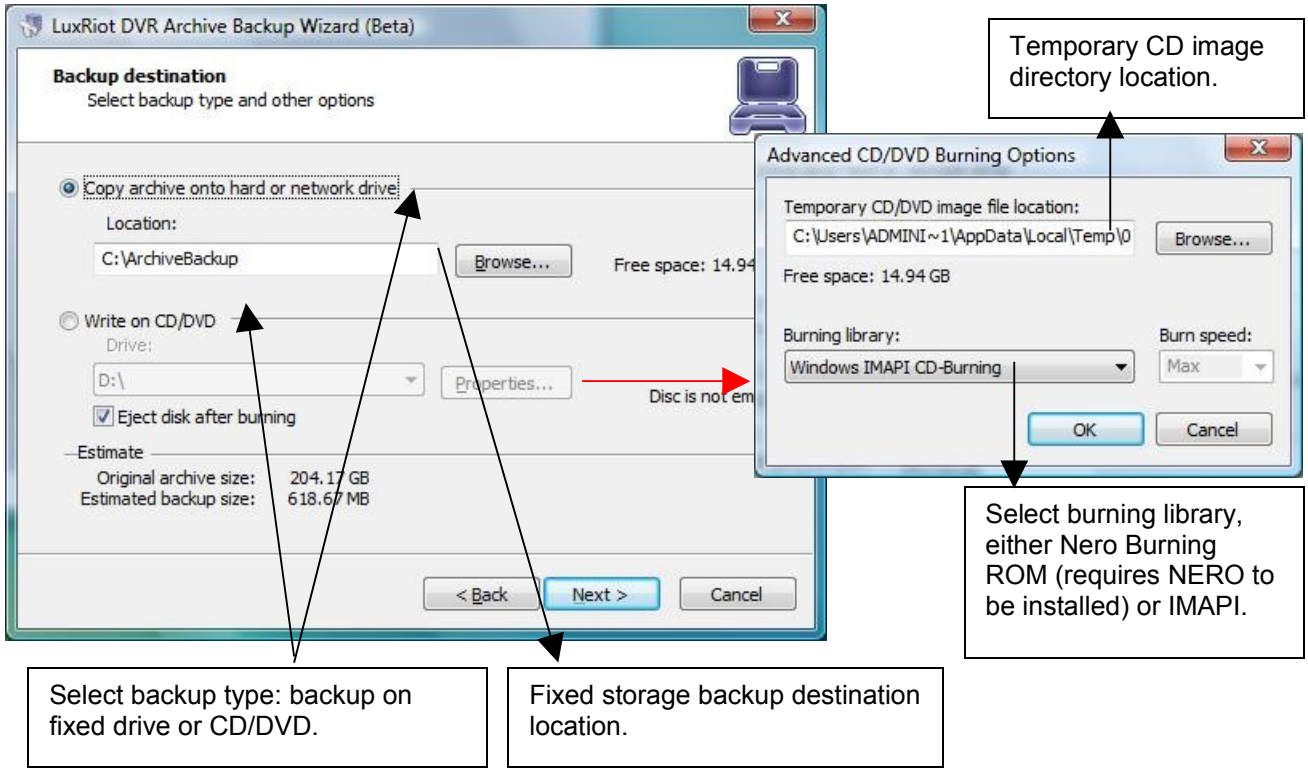
Select time range of backup archive. Additionally you could decrease fps of backup in advanced options.


LuxRiot DVR Archive Backup Wizard (Beta)
Time selection
Select archive time range to backup
Please select start and stop time for backup process. Selected time interval will be copied from LuxRiot DVR archive.
Start time:
6:09:35 F
Stop time:
6/28/2007
2:09:12 F
Press this button to decrease FPS to backup
Advanced...
Estimate
Original archive size: 204.17 GB
Estimated backup size: 204.17 GB
< Back
Next >
Cancel
Select time range of backup archive.
Limit fps of the output archive in advanced dialog in order to make it smaller.
Advanced Backup Options
Maximum FPS:
0.00
Use this parameter in case you want to compress archive streams. Leave 0 (default) not to limit FPS in archive backup.
Split streams to fit equal time lenght into one disc
Split each stream to one disc
OK
Cancel

Click next

4th Screen- "**Backup Destination**"

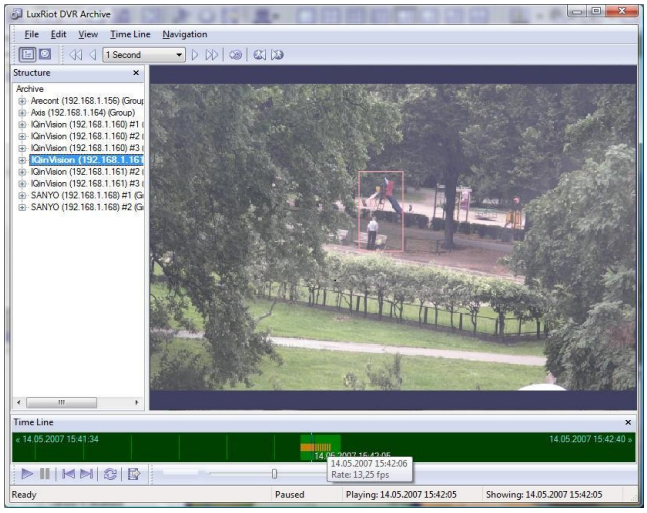
Select type of backup and check options of each type of backup.



On the next page you will see progress of backup action, after which you will be directed on the finish page.

End of archive backup wizard

Chapter 6



How to Playback Video

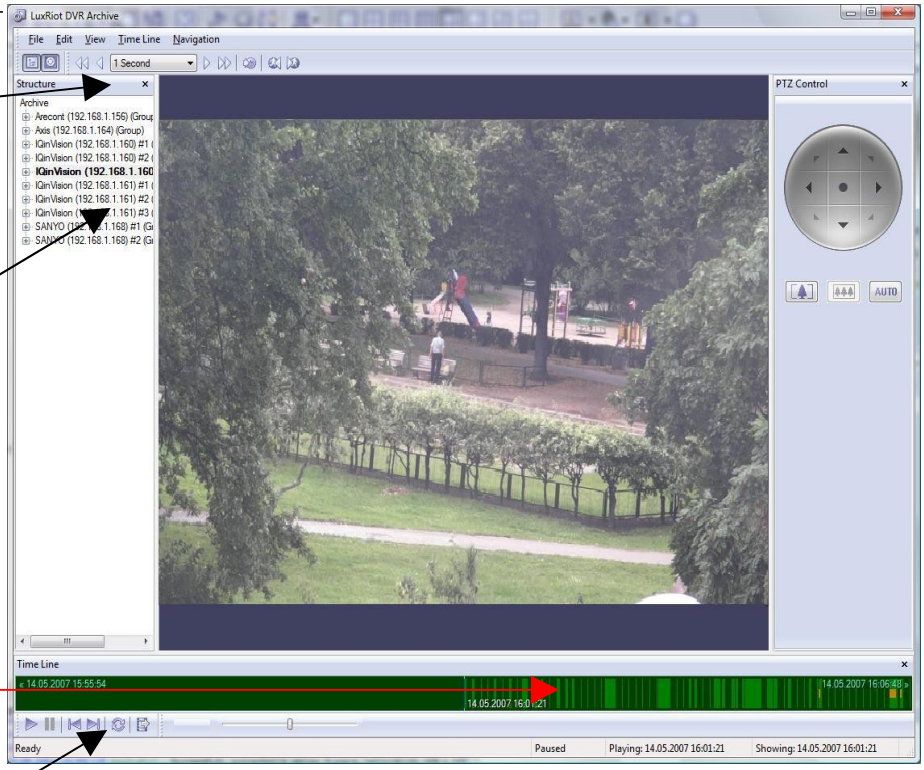
To playback recorder video
Right click on your server name
Choose tasks
Open archive

You can also

Right click on any camera view and
Choose open archive

Your archive pane will now open

Playback Window Structure -



Now that you are in the playback screen, the structure pane on the left lists all of the cameras that you have recordings for

To Navigate through the Video -

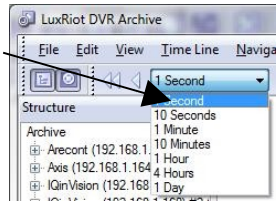
Double click on the camera you wish to playback (This camera will now appear with footage on the video screen)

The solid **green line** on the bottom represents time. The **light green lines** represent recorded video. The **orange lines** represent motion information.

There are basic VCR controls on the bottom of the playback screen, which you can use to play, pause, forward, and rewind.

Fast forward & Rewind

You have a jog dial on the bottom of the screen, which you can drag in either direction to browse through your video in high speeds.
Another way to fast forward is to use the arrow controls on top of the screen in which you can define how many increments of time you would like to move through the video.



Playback Motion Only-

Located at the top of your Archive Pane, there are two buttons that allow you to seek video with actual motion in return saving you time.

With the camera you wish to review selected and showing in your video screen
Choose either "seek previous motion" or "seek next motion"

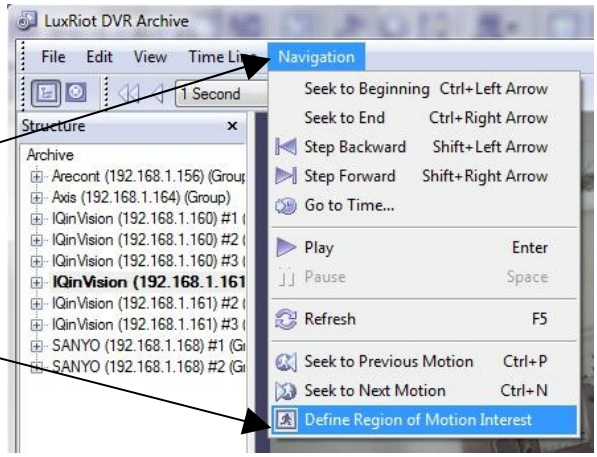
Smart Search

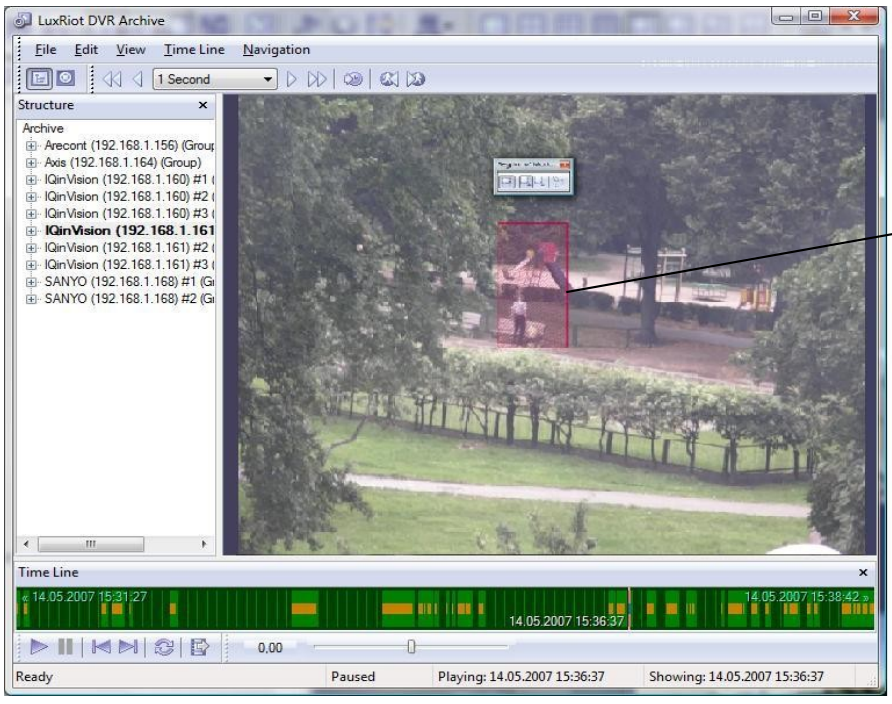
You can also search through video not only by motion in the screen, but also by ***motion in a specific part of your camera screen***. Through LuxRiot's playback screen, you can define a specific object in your view, or define a path, and seek through motion only in that specific region. This process is very commonly referred to as "smart search".

Define motion of interest

Click on the navigation menu at the top of the playback screen

Click on "Define region of motion interest".





While having the left button continuously pressed, drag the mouse over the area you would like to see motion in (This will create a grid in that area). You can also select multiple regions.

Click on "seek to previous motion" or "seek to next motion" to search through motion in the defined area or areas.

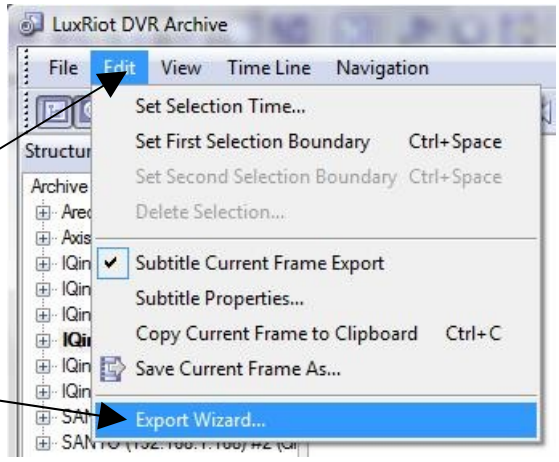
End of Playback Video

Export Video

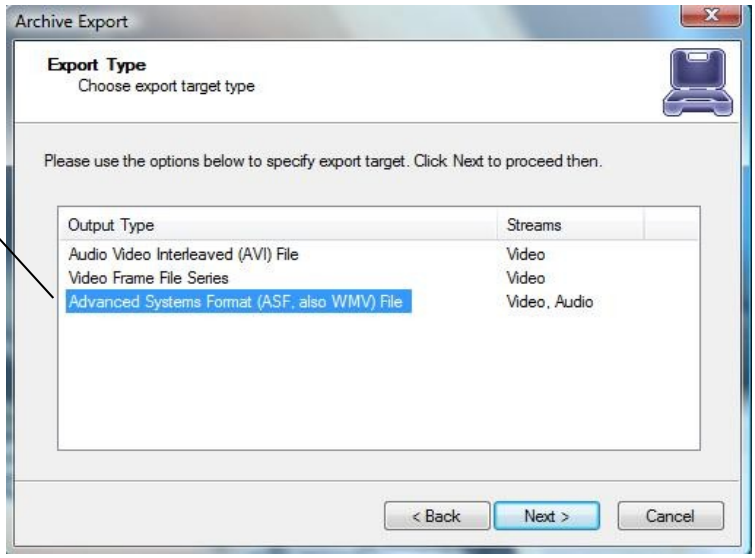
To export video, you first have to select the section of recordings that you want to export to a different location (This will also prevent it from getting overwritten). To select video

Click on Edit at the top of the playback screen

Click on Export Wizard



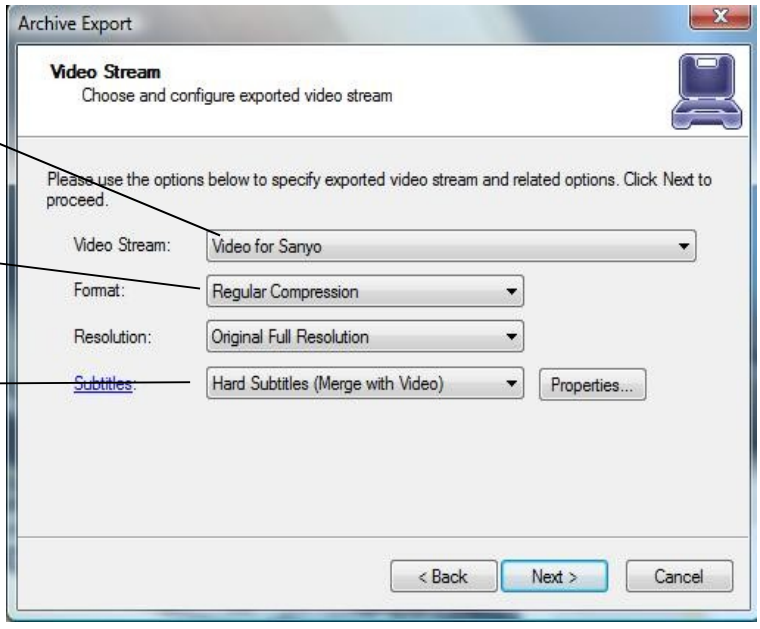
Video + Audio export available only for ASF and WMV formats.



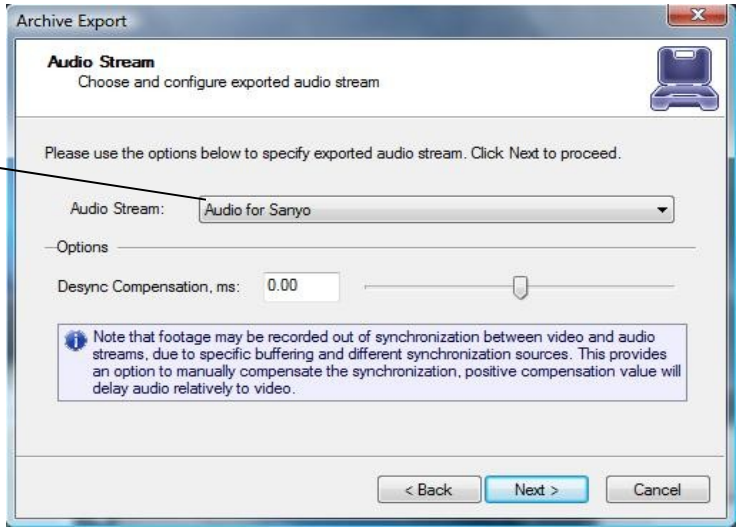
Choose which camera to export.

Choose compression.

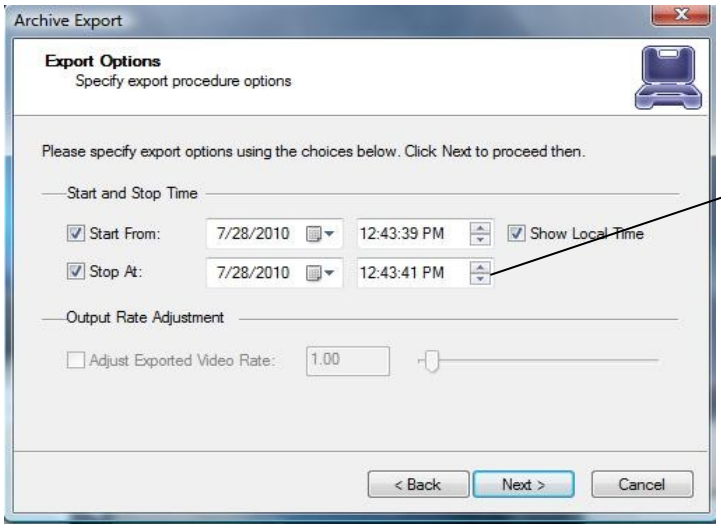
Choose subtitles.



Choose which Audio stream you want to export along with video.


Archive Export
Audio Stream
Choose and configure exported audio stream
Please use the options below to specify exported audio stream. Click Next to proceed.
Audio Stream:
Audio for Sanyo
Options
Desync Compensation, ms:
0.00
Note that footage may be recorded out of synchronization between video and audio streams, due to specific buffering and different synchronization sources. This provides an option to manually compensate the synchronization, positive compensation value will delay audio relatively to video.
< Back
Next >
Cancel

Click next.



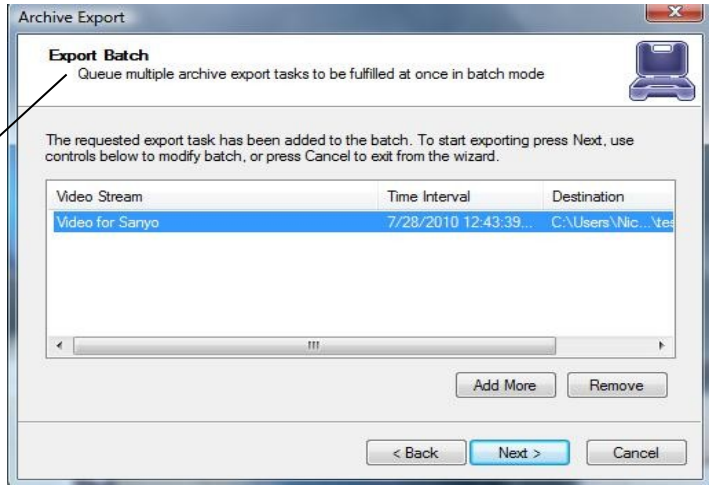
Select the start and finish times of the video clip that you want to export.

The Wizard will guide to the next step for you do designate to which drive or folder to save the export video.

Note: To play back the LuxRiot AVI file, a codec (a small executable file) will have to be installed in order for your media player to recognize the LuxRiot video file. The codec can be downloaded from http://www.luxriot.com/downloads.html

Export Batch

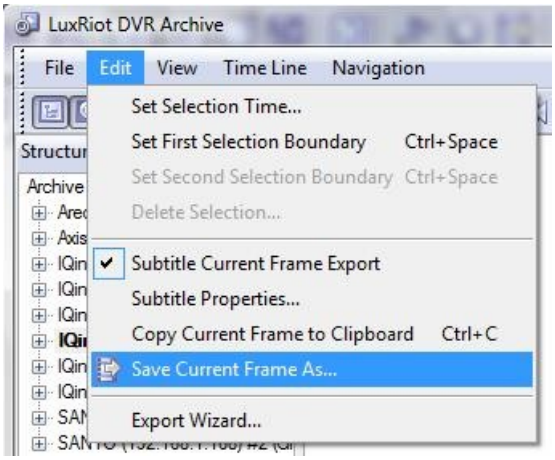
set all necessary parameters and before start export, the wizard shows you the Export Batch window. The export Batch Window allows you add multiple export tasks.


Archive Export
Export Batch
Queue multiple archive export tasks to be fulfilled at once in batch mode
The requested export task has been added to the batch. To start exporting press Next, use controls below to modify batch, or press Cancel to exit from the wizard.
Video Stream
Time Interval
Destination
Video for Sanyo
7/28/2010 12:43:39...
C:\Users\Nic...\te
Add More
Remove
< Back
Next >
Cancel

Export Snapshots

Another way to export video is to save one frame at a time, like a snapshot.

First pause the video on the picture that you would like to copy,
Click on edit
Choose “save current frame as…”
Pick a location and file name for your image and
Click save.

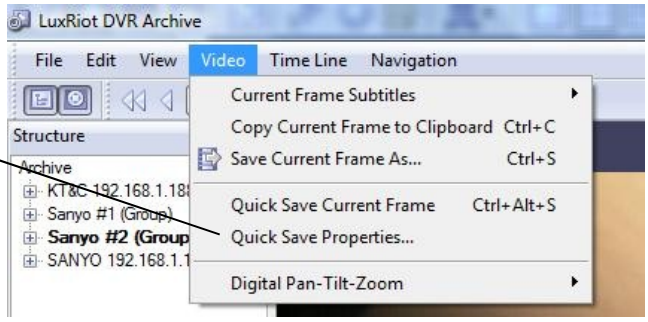


Now you will have the image stored so that you can print, e-mail, or enhance that snapshot.

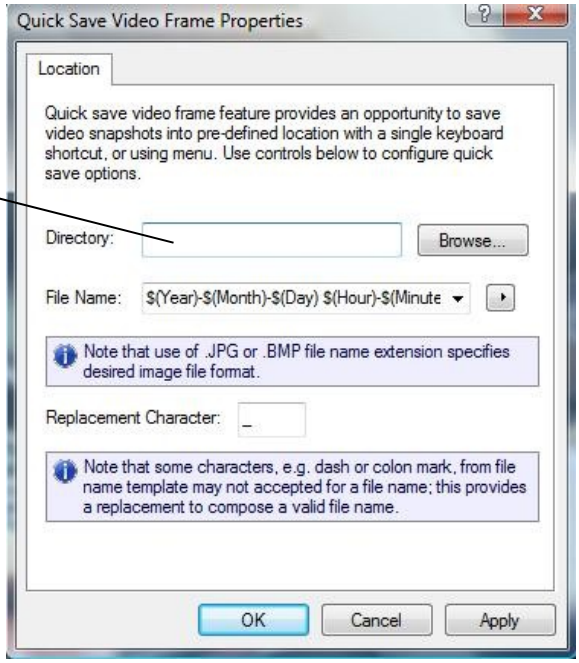
Quick snapshot save and current visible frame save

The Quick save feature provides you the option to quick save video snapshot to a pre-define location with a single keyboard shortcut.

Prior using the “quick save current frame” the Quick save properties must be configured to pre-define the save location.

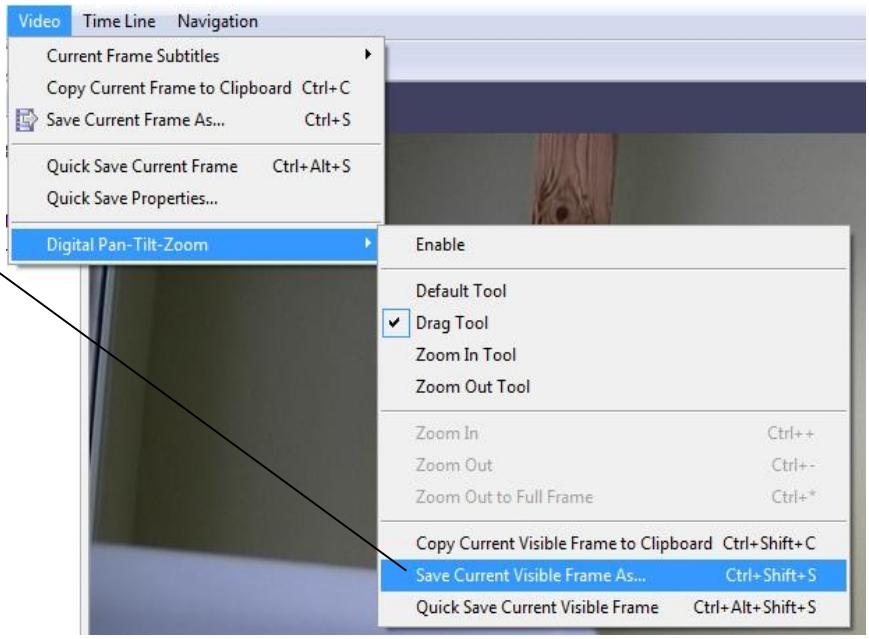


Setup preferred directory for saving the snapshots.


Quick Save Video Frame Properties
Location
Quick save video frame feature provides an opportunity to save video snapshots into pre-defined location with a single keyboard shortcut, or using menu. Use controls below to configure quick save options.
Directory:
Browse...
File Name:
$(Year)-$(Month)-$(Day) $(Hour)-$(Minute
Note that use of .JPG or .BMP file name extension specifies desired image file format.
Replacement Character:
_
Note that some characters, e.g. dash or colon mark, from file name template may not accepted for a file name; this provides a replacement to compose a valid file name.
OK
Cancel
Apply

Quick snapshot can be saved by menu or short keys

The same procedure applies for Digital PTZ visible Frame.



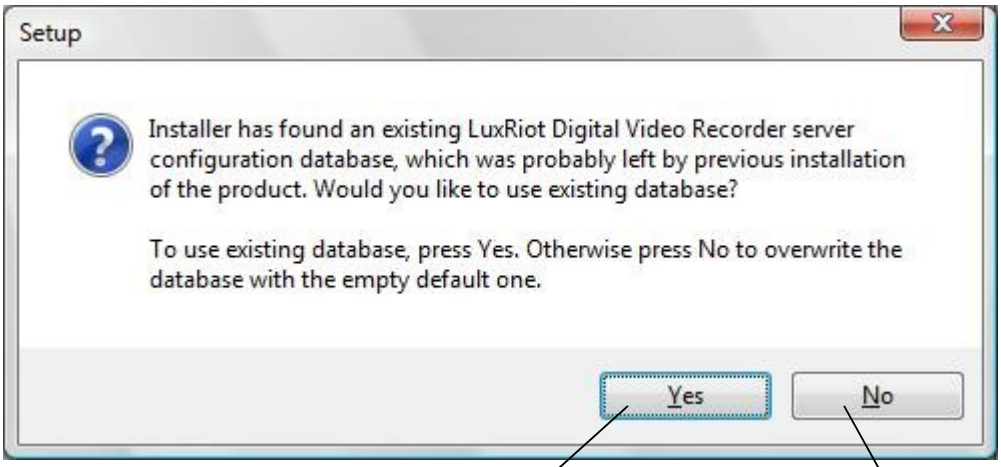
End of Export Video

Chapter 7

Upgrading Luxriot software to a newer Version

To check for upgrades and new free versions you can always visit www.luxriot.com.

Updating the software requires all DVR services to stop before Installation (see page 17-18).
During the installation of the new version you will encounter the following message:


Setup
Installer has found an existing LuxRiot Digital Video Recorder server configuration database, which was probably left by previous installation of the product. Would you like to use existing database?
To use existing database, press Yes. Otherwise press No to overwrite the database with the empty default one.
Yes
No

Recommended
To keep all current configurations of your server

To start a new database. By doing that all previous settings and configurations will be erased and a new database will be created.

After the above step you can continue with the installation. See Chapter 2

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Enter Notes Here-

Additional References:

For Your Records

Dealer Name:

Dealer Address:

Date Of Purchase:

Purchase Location:

Software Activation Key:

Dates Software Last Upgraded:

A&H Software House, Inc
www.Luxriot.com